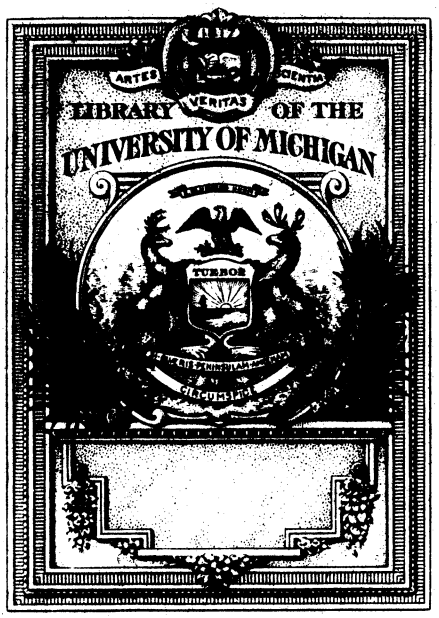
THE BRONZE AGE IN IRELAND

GEORGE COFFEY



THE BRONZE AGE IN IRELAND

THE BRONZE AGE IN IRELAND

BY

GEORGE COFFEY

MEMBER OF THE ROYAL IRISH ACADEMY
HONORARY FELLOW OF THE ROYAL SOCIETY OF ANTIQUARIES OF IRELAND
KEEPER OF IRISH ANTIQUITIES IN THE NATIONAL MUSEUM
AND PROFESSOR R.H.A. DUBLIN

WITH ELEVEN PLATES AND EIGHTY-FIVE ILLUSTRATIONS

HODGES, FIGGIS, & CO., LIMITED,
104 GRAFTON STREET, DUBLIN
SIMPKIN, MARSHALL, & CO.,
LONDON
1913

PRINTED AT THE

BY PONSONBY AND GIBBS.

PREFACE

In this book on the Bronze Age in Ireland I have collected and collated all my work on the period. Much of it I have already published in the "Proceedings of the Royal Irish Academy" and elsewhere. I have long felt the need of a book on the Bronze Age in Ireland, as hitherto none has appeared dealing adequately with the archæology of that period in this country.

Within the last few years it has been recognized that the Bronze-Age civilization in Europe did not consist of a series of isolated communities, each developing its own type of objects and decorations, but that there was a community of ideas and forms extending from Mycenæ all over the European continent.

I have described the various forms of Bronze-Age implements of peace and of war found in Ireland, and have shown how they are connected with similar types on the continent of Europe. M. J. Déchelette, of the Roanne Museum, one of the first authorities on the Bronze Age, agrees with me in ascribing a Mycenæan origin to certain forms of Bronze-Age implements.

How this Mycenæan influence penetrated to Ireland is a matter on which there is some difference of opinion, and possibly new discoveries may throw additional light on the problem. As I have shown both in this and in former works, the most probable route seems to be that of the Danube and the Elbe, and thence by way of Scandinavia to Ireland. It is to be hoped that now—with a concentrating of Irish interests

on Irish affairs a new impetus will be given to the study of the history of our country, and that many workers may be found in the fields of archæology and of all subjects connected with our past.

In my "Guide to the Celtic Antiquities of the Christian Period" I have given the history of Irish art in the Christian period; in "New Grange (Brugh na Boine) and other Incised Tumuli in Ireland, the influence of Crete and the Ægean in the extreme west of Europe in early times," I have given as much as is known of the pre-Christian period up to the Bronze Age; and in this, my latest work, which has been much interrupted by illness, I have endeavoured to complete the history of ancient art in Ireland.

I have to thank the Councils of the Royal Irish Academy and of the Royal Society of Antiquaries of Ireland for the loan of a number of blocks. In other cases drawings have been made direct from objects in the National Museum by Miss E. Barnes.

The plates are from photographs taken by the photographer of the National Museum.

In offering this book to the public I must express my gratitude to Mr. E. C. R. Armstrong, to whom I am indebted for his unvarying kindness and sympathy, and for much valuable assistance both in the matter and form of the work.

GEORGE COFFEY.

CONTENTS

LIST OF ILLUSTRATIONS

THE BRONZE AGE IN IRELAND

CHAPTER I

INTRODUCTION

THIS book deals with the Bronze Age principally from the point of view of the implements and weapons in use in Ireland during that period. It is unnecessary to state that the materials for writing anything like a full account of the civilization or political organization during the Bronze Age do not exist; and even the ethnological affinities of the dominant race that inhabited Ireland during this period are doubtful. All that can be said is that there was apparently no gap between the end of the Neolithic Period and the transitional Copper to Bronze Period. Stone weapons continued in use side by side with those of copper and bronze; and the form of the former was sometimes actually influenced by those of the latter.

There has been so little scientific excavation in Ireland that the question as to the early burial-customs is surrounded with difficulty; such evidence as there is points to cremation having been practised early, as was also the case in Great Britain. Instances show that the two rites of inhumation and cremation were practised side by side.

In the cairn excavated on Belmore Mountain, County Fermanagh, both burnt and unburnt interments were found with pottery and other objects of early Bronze-Age type.*

* Proc. Royal Irish Academy, vol. xx, p. 659.

At a recent excavation near Naas, County Kildare, a burnt interment was discovered in a cist, the remains being associated with a wrist-bracer and remains of pottery.* In the fine series of cairns on Carrowkeel Mountain, County Sligo, burnt and unburnt interments were found associated with pottery, bone implements, and stone beads.† At Annaghkeen, County Galway, a cremated burial was discovered in a cist associated with pottery and a small bronze knife-dagger and awl.‡

The Hon. John Abercromby gives a list of food-vessels found with cremated burials in Ireland, and to these must be added a food-vessel of early type found in 1912 in a quarry at Crumlin, County Dublin. It must, however, be left for future excavations to decide many questions to which at present no answer, or only a doubtful one, can be given. This, however, is certain—Ireland during the Bronze Age was not isolated, but stood in direct communication with the Continent. Ægean and Scandinavian influences can be detected in the great tumuli of the New Grange group§; and Iberian influence is discernible in some of the later types of bronze implements. Ireland, as will be shown in the chapters dealing directly with the gold objects, was, during the Bronze Age, a kind of western El Dorado, owing to her great richness in gold; Irish gold ornaments have been found both on the Continent and in Scandinavia; while Scandinavian amber has been found in Ireland. As will be seen on p. 81, the Bronze-Age people were acquainted with the art of weaving; and fine ornaments of horse-hair were sometimes used. The art of making pottery by hand was carried to a high degree of excellence. Shaving must have been fairly common, judging by the number of bronze razors found. We shall find evidence further on in this work to show that corn was probably grown and agriculture fairly advanced.

* Proc. Royal Irish Academy, vol. xxx, p. 351.

† Proc. Royal Irish Academy, vol. xxix, p. 311.

‡ Journal Galway Archæological and Historical Society, vol. v, p. 159.

§ "New Grange and other Incised Tumuli in Ireland," p. 62.

The great tumuli at New Grange and the lesser ones at Carrowkeel show that the art of building was well developed, and that the religious ideals of the people had attained a certain fixed form. What the actual dwellings occupied by the people were we cannot say; but it is probable that many of the promontory-forts and some at least of the larger cashels and ring-forts date back to this period. There remain, however, many questions which, as we have said, must be kept over for future investigations.

The Chronology of the Irish Bronze Age

Some discussion as to the absolute chronology of the Bronze Age in Ireland will, no doubt, be expected, though any attempts to give actual dates can only be approximate; the succession of types is really of considerably more importance than the actual date, as such a succession enables objects, finds, and interments to be arranged in a progressive series, and shows the general trend of advance and culture. The doyen of prehistoric archæology, Dr. Oscar Montelius, of Stockholm, has been the pioneer of the study of the prehistoric chronology of Europe, his chronology of the Bronze Age in Scandinavia having been published as far back as 1885. Since then he has published the results of his studies of the Bronze-Age chronologies of Greece and Italy, and of France, Belgium, South Germany, and Switzerland. More recently (1908) he has put forward the chronology of the British Islands in a notable memoir published in Archæologia. It may be mentioned that Dr. Montelius visited Ireland some years ago, and speaks with the greater authority as having personally examined the actual Irish evidence.

In this memoir Dr. Montelius divides the Bronze Age of Great Britain and Ireland into five periods, and includes in his first period the transitional time when copper was in use

(Copper Period), which he places at from the middle of the third to the beginning of the second millennium B.C. Now, though the division of the Irish Bronze Age into five periods may be accepted, we should hardly care to place the first period as early as Dr. Montelius suggests; and without going into the question of the time at which the period commenced, we might take the period of its ending at from about 2000–1800 B.C. In this period would be included the flat copper celts of early form, copied from the stone celts of the preceding Neolithic Period, some few small, flat knife-daggers of copper, and the earliest of the halberds. Stone implements, no doubt, remained largely in use; and the very finely decorated hammer-axes probably belong to this period.

It is possible that gold—which, on account of its colour and appearance on the surface of the ground, must have been one of the metals first noticed and made use of in prehistoric times—was used for making ornaments at this period, or possibly, as Prof. Gowland suggests, may have been hammered into ornaments even during the preceding Neolithic Age.* There is, however, no gold object in the National Collection which we should care to place so early.

The second division of the Bronze Age (the first period of the true Bronze Age) would fall between 1800 and 1500 B.C.; and in it would be included, as the principal types, the flat bronze celts—including those with the edge much wider than the blade—flanged celts, small bronze daggers, the later halberds, jet buttons with conical perforations, and the early types of jet necklaces, and probably the gold lunulæ.

The third period might be placed at from 1500 to 1250 B.C., and the principal types falling within it are flanged celts with stop-ridges, tanged spear-heads, and larger dagger-blades, sometimes with bronze handles.

The fourth period, which was long, and during which a considerable development takes place, might be placed at from

* Journal Royal Anthropological Institute, vol. xlii, p. 259.

1280 to 900 B.C. This period includes the later type of celts with increased stop-ridge and flanges (palstaves), and some of the earlier forms of socketed celts, long rapiers, the earlier type of leaf-shaped swords, and the looped and leaf-shaped spear-heads, gold torcs, and possibly some of the bronze fibulæ, and sickles without sockets; the disk-headed pins and bronze razors may be placed either at the end of this time or the beginning of the next period. In this period must also be placed the building of the great tumuli of the New Grange group.

The fifth division—also a long one—would go from 900 to about 350 B.C., at which time iron weapons were probably coming into general use in Ireland. In this period would fall the socketed celts, including the latest type, which takes a form not uncommon among iron or steel axes, the later bronze swords with notches below the blades, bronze sword-chapes, the socketed sickles, probably some of the more highly ornamented bronze spears with apertures in the blades, the bronze trumpets, the gold fibulæ, and gold gorgets. It must be remembered that the Continental Hallstatt period is not at present well represented in Great Britain and Ireland, and though, under Hallstatt influence, certain Continental Iron-Age types such as bronze caldrons, trumpets, round shields, &c., found their way into Ireland, we cannot as yet definitely separate this period from the end of the Bronze Age.

CHAPTER II

Transitional Copper Period

In Ireland the metal first used was copper. Native copper is plentiful in Ireland, and has been chiefly obtained from the Counties of Wicklow, Waterford, Cork, Kerry, Tipperary, and Galway. In Waterford stone implements have been found in copper mines in ancient workings, showing copper was mined for at an early period.* The time during which copper was in use was probably relatively only a short one, much shorter than the Neolithic Period or than the true Bronze Age. The evidence for this period is the large number of flat copper celts which have been found in the north and south, and east and west, of the country. The earliest copper celts resemble in form the stone celts from which they are derived, and were cast in open moulds on one side only, and then hammered flat on the other. Moulds for casting celts in this way have been found in Ireland. It is also extremely interesting to notice that some stone celts betray the influence of metal types by their form. It may be well here to meet an objection that has been raised against a special use of copper in Ireland. It has been urged that the large number of flat copper celts may have been due to a scarcity of tin, and that as copper cannot be cast in closed moulds, casters who could cast advanced forms of bronze celts were obliged to return to the primitive form necessary for casting in an open mould. Copper ores are, however, very rarely found in a pure state, and the small impurities of antimony, arsenic, &c., combine in the smelting with the copper, and lend a hardness and ductibility which would enable it to be cast in closed moulds.† The analyses of

* Sir R. Kane, Industrial Resources of Ireland. Second edition, 1845, p. 189.

† See analysis of a socketed celt of an alloy of copper and antimony found at Elbing, West Prussia, Journal Anthropological Institute, vol. xxxvi, p. 21.

Irish copper celts agree among themselves, and substantially with those from other countries, the small quantities of tin, antimony, arsenic, &c., which are found being due to impurities in the ore. The celts may be taken to be of copper, and not of poor bronze.* The earliest copper celts resemble the stone celts from which they are derived; some of them are small. A development takes place throughout the series, the celts becoming larger and the edges thinner as they approach the bronze forms. No trace of a stop-ridge is ever found on copper celts.

The principal finds are as follows:—

1. Three copper celts, three copper awls, and a copper knife found, in 1874, in a bog at Knocknague, Kilbannon, County Galway. Purchased from the finder, Michael Rafferty, by the Royal Irish Academy. (Fig. 3.)
2. Three copper celts, a fragment of a fourth (butt-end), a copper halberd, and a short blade of copper of somewhat similar form, found in 1892, near Birr, King's County, formerly in the collection of Mr. Robert Day, of Cork (Fig. 2.)
3. Three copper celts found in 1868, when ploughing at Cullinagh, near Beaufort, Killarney, County Kerry. (Day Collection.)

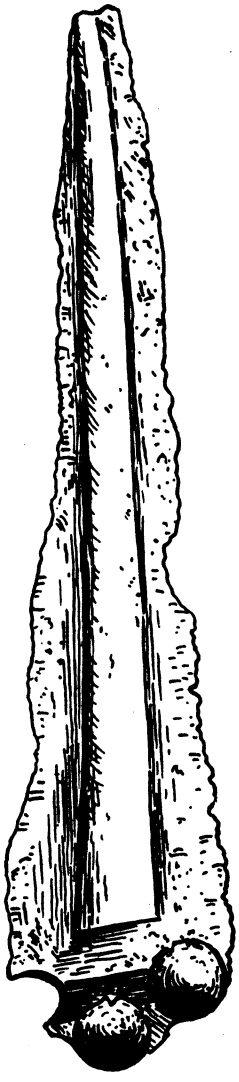


Fig. 1.—Copper Halberd, Birr find ($\frac{1}{2}$).

* See paper "Irish Copper Celts," Journal Anthropological Institute, vol. xxxi, p. 265, where the question is fully dealt with.

4. Two large and well-formed copper celts found together in street excavations in Suffolk Street, Dublin, in May, 1857. (Ray Collection.) (Fig. 4, nos. 1 and 7.)

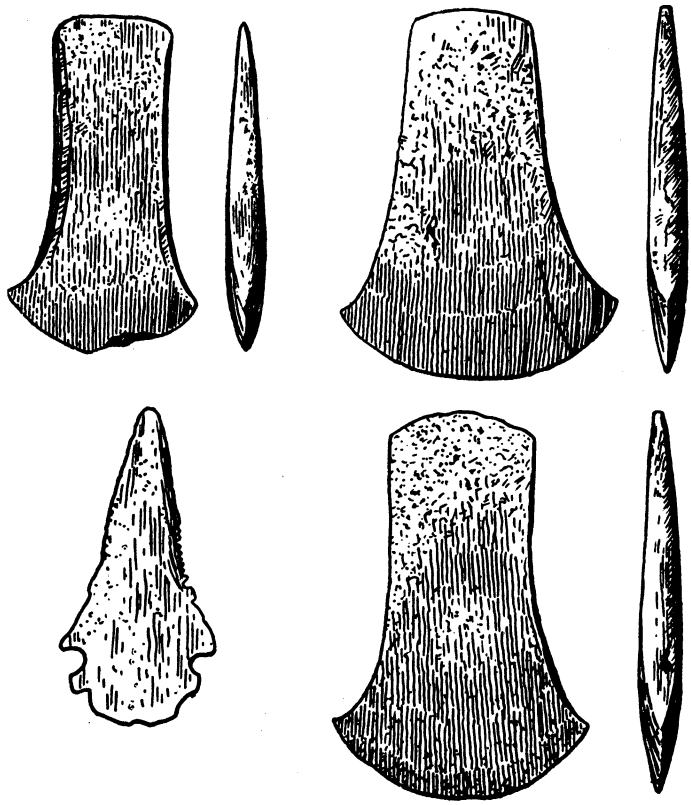


Fig. 2.—Birr Find ($\frac{1}{2}$).

5. Two copper celts found together at Clontoo, near Kenmare, County Kerry, in 1906. (Fig. 4, nos. 2 and 3.)

6. Six copper celts found together at Cappeen, County Cork.

The distribution, analyses, types, and finds show that the copper celts represent a period when copper was in common use throughout Ireland and before bronze was generally known. The celts from the Ray Collection mentioned above show that the fully developed celt was in use during this period, while the "Birr find" with the halberd shows that the halberd was also known and in use during the full copper period.

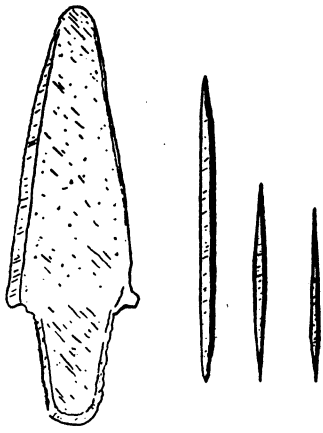


Fig. 3.
Copper Knife and Awls found at Knocknague (½).

Moulds for casting flat celts, copper and bronze, have been found in the following places in Ireland:—Carrickfergus; Ballymena; Loughgall, County Antrim; Ballynahinch, County Down; and Lough Scur Crannog, County Leitrim.*

Copper celts have been found practically over the whole country; and the following is a list of those in the National Collection, of which the localities are known, and, as well as

* Crawford, "Early Bronze-Age Settlements in Britain," Journal Royal Geographical Society, 1912, p. 217.

these, there are about eighty for which the provenance has not been exactly recorded:—

LIST OF COPPER CELTS FOUND IN IRELAND.

Antrim, Craigbally, 1 (1897 : 111).

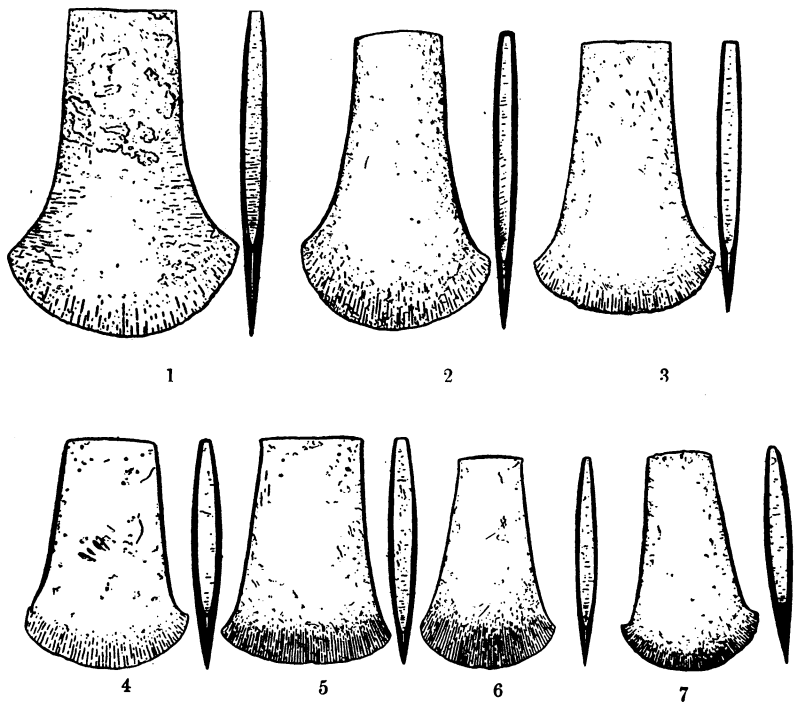


Fig. 4.—Copper Celts (½).

Cavan, 1. (R. 1685).

Cork, Cappeen (6); County Cork, 1 (1881 : 136).

Donegal, Letterkenny, 1 (1897 : 114).

Dublin, Suffolk Street, 1857: 2 large copper celts. (Ray Collection.)

Galway, Knocknague, Kilbannon, three copper celts, a copper knife, and three copper awls. County Galway, 1. (R. 1660.) (Fig. 3.)

Kerry, Beaufort, Killarney, three copper celts found together in 1868 when ploughing at Cullinagh. (Day Collection.) Clontoo, near Kenmare, two copper celts found together in 1906.

Londonderry, in the River Bann, near Coleraine, 1. (W. 3.)

Louth, 1. R. 362.

Mayo, Killala, 1. (W. 4.)

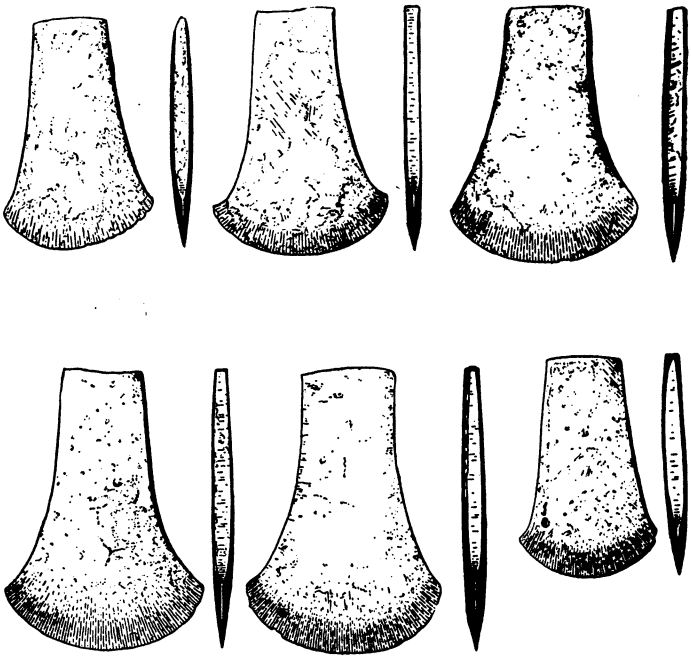


Fig. 5.—Copper celts from Cappeen, Co. Cork (½).

Meath, Dunshaughlin 1 (172, W.).

Tipperary, Dundrum, 1 (1881 : 133).

Tyrone, Mountfield, 1 (112 : 1897).

Waterford, Tramore, 1. (W. 10.)

The localities of the following copper celts in other collections are known :—

Antrim, 3. (Knowles Collection.)

Cork, 5. (Day Collection, about 4. Evans Collection, 1.)
Fermanagh, 2. (Day Collection, 1. Evans Collection, 1.)
Kerry, 3. (Day Collection.)
Kilkenny, 1. (Day Collection.)

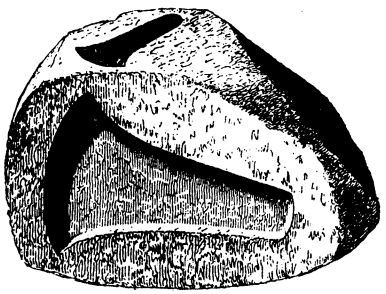


Fig. 6.

King's County, 8. (Birr three, and five others found in the King's County. Day Collection.)
Limerick, 2. (Day Collection.)
Sligo, 2. (Sir John Leslie's Collection.)

HALBERDS

As already stated the Birr find shows that the halberd was in use during the full Copper Period; and, though to judge by the form of the celts, we may place it at the end of the period, yet more primitive types are known, and we may therefore presume the halberd goes well back into the Copper Period.

The National Collection at Dublin contains forty-nine specimens of these broad coppery blades. In a few cases there may possibly be a doubt as to whether they should be classified as halberds or primitive daggers. The localities of the majority

are not known further than that they have been found in Ireland; but from the known localities they seem, like the copper celts, to have been found in all parts of the island;

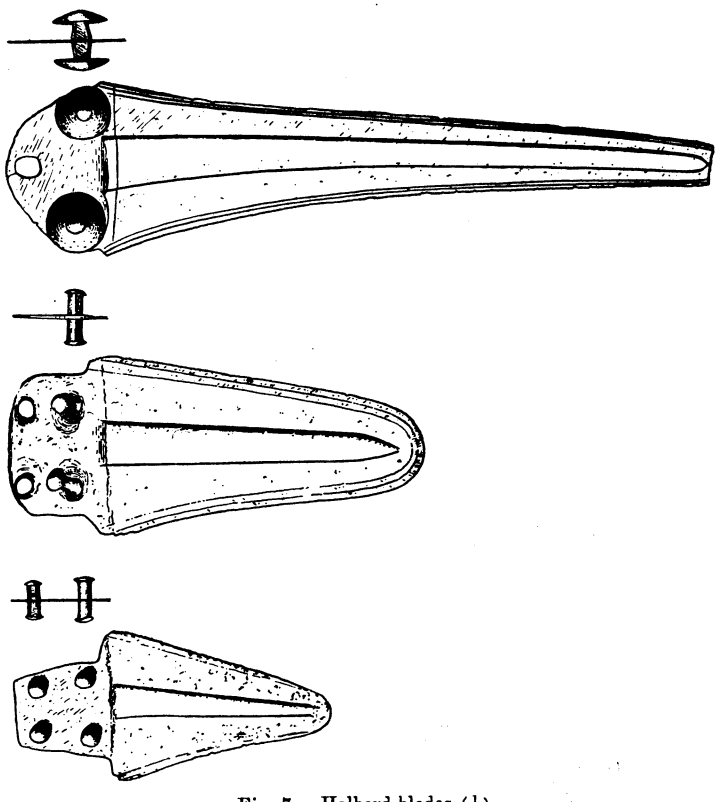


Fig. 7.—Halberd blades ($\frac{1}{4}$).

and local distinctions of type, if they existed, are not now possible.

Of the forty-nine mentioned, twenty have localities as follows:—Antrim 1, Cavan 3, Roscommon 2, Galway 8, Meath 1, King's County 1, Queen's County 1, Clare 1, Limerick 1,

Cork 1. Seven of those from Galway represent a single find, which gives that county an undue proportion.

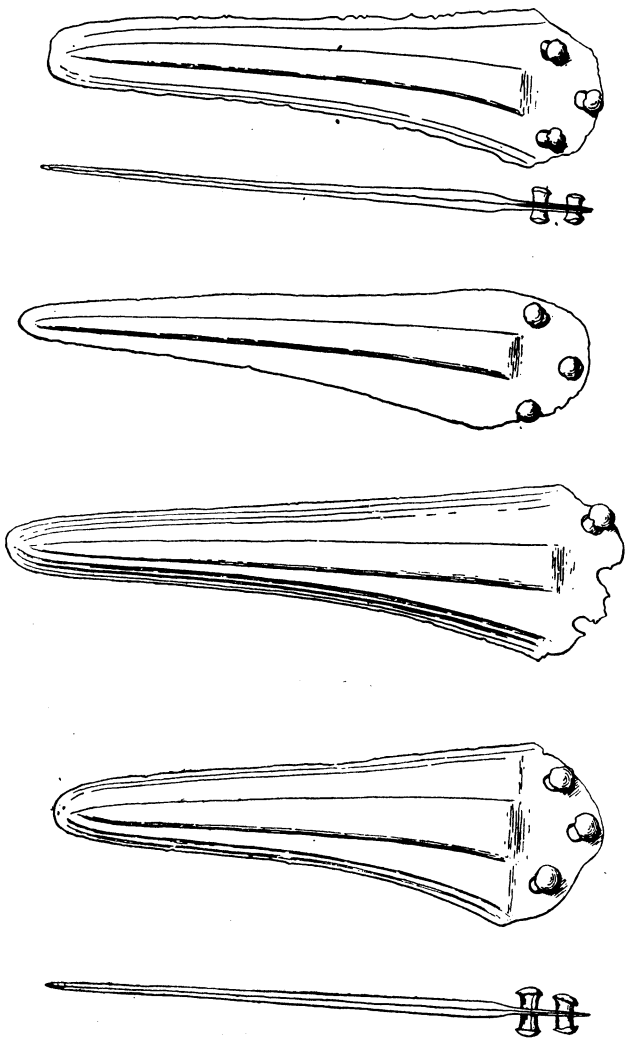


Fig. 8.—Halberd blades ($\frac{1}{4}$).

Types

What may be considered as the developed or normal type of the Irish halberd blade is slightly but distinctly curved, so that

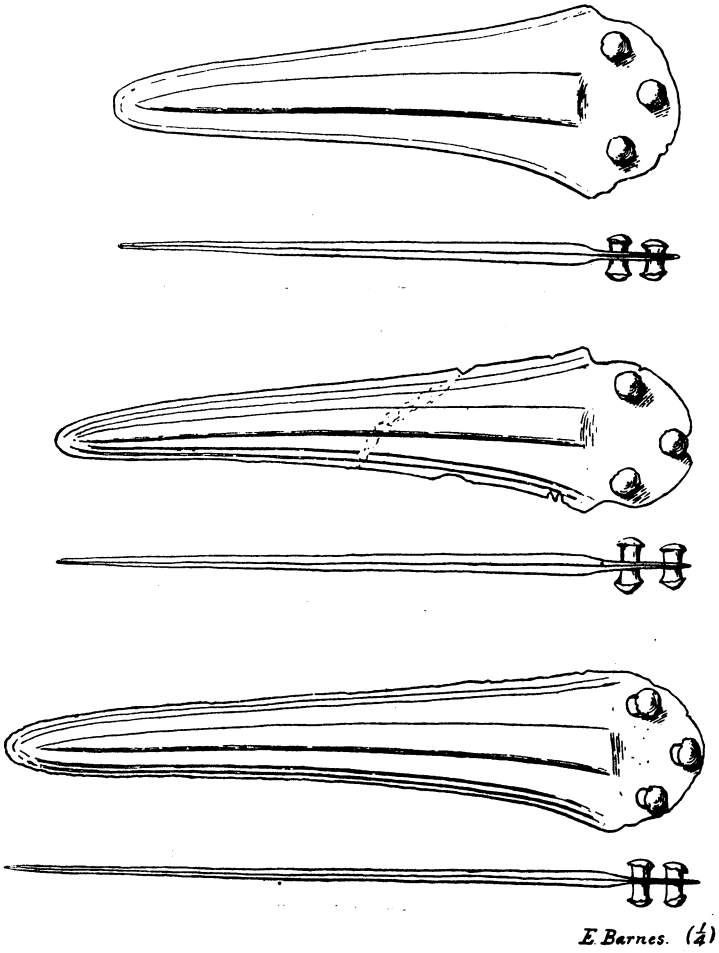


Fig. 9.—Halberd blades (¼).

they have been called "scythe-shaped." They vary from about 9 inches to 15 or 16 inches in length, and from about 3 to

4 inches in breadth at the widest part; with few exceptions they have three rivets with large heads. The various sizes are well represented in a find of seven of these blades obtained in 1888 when making the railway near Hollywood, County Galway.

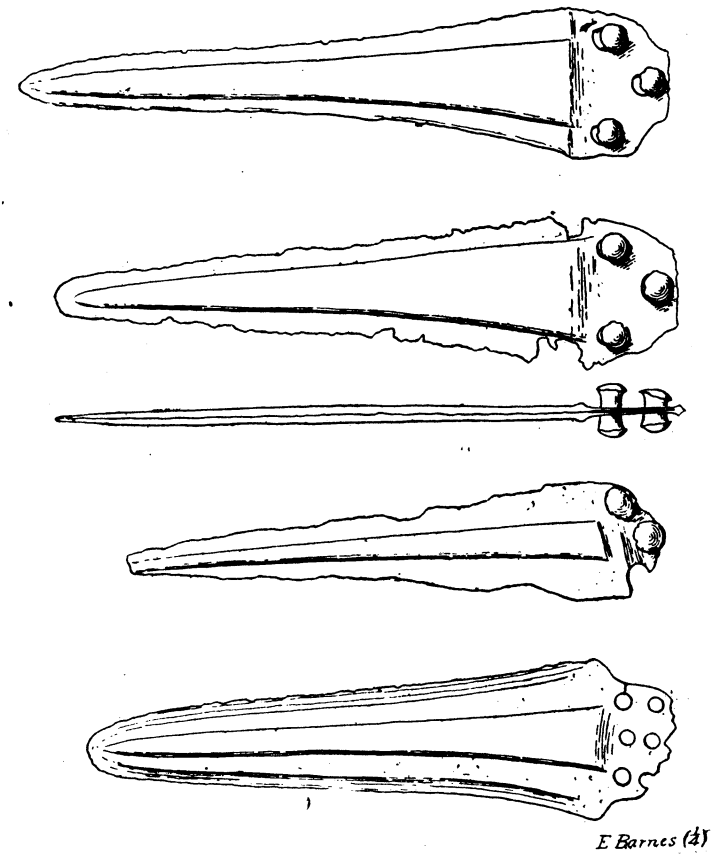


Fig. 10.—Halberd blades (½).

They were described as having been found about 2½ feet under the surface of a shallow bog "stuck in a bunch in the ground, with points down. No other relics appeared near them." We do not think it is any use attempting to place the halberds in a

series of development; and no progression can be claimed for their forms other than that there appears to be a movement of development from the smaller straight blades to the larger and curved blades. In one or two cases the mid rib has been brought to a slight roof-ridge; and a fine example in the late Sir John Evans' collection shows a well-marked bead down the mid rib ("Bronze Implements," fig. 331); but in most cases the mid rib is quite plain with a rounded curve in section.

Analyses

Analyses of the halberd blades show that the metal of which they are composed does not differ much from that of the copper celts. A recent analysis of five specimens is appended which shows that the blades are practically of pure copper. This is interesting, as it removes the doubt expressed by Sir John Evans in "Bronze Implements," p. 265, that "many of these blades have the appearance of being made of copper; but the absence of tin in their composition has not been proved."

		Copper.	Tin.	Antimony.	Arsenic.	Lead.	Silver.	Iron.	Bismuth, Nickel, Zinc.
1	King's Co. Day Coll., No. 25,	99·02	0·22	Nil	Nil	0·19	0·26	0·04	Nil
2	Antrim, 1903, 235, No. 9,	97·31	0·31	0·14	0·18	Nil	Nil	Nil	Nil
3	Galway, W. 241, No. 19,	98·06	0·22	Nil	Nil	0·58	Nil	0·17	Nil
4	Cork, R. 459, No. 7, .	98·30	0·30	0·27	0·37	Nil	Nil	Nil	Nil
5	W. 248, No. 28,	97·24	0·18	Nil	1·54	Nil	0·25	Nil	Nil

The manner in which the halberd blades were attached to their shafts is explained by the bronze halberds with bronze

shafts—the blade and upper part of the shaft often in one piece—from North Germany and from Sweden. These halberds are referred to an early stage of the Bronze Age; but they are of bronze, and, in casting and other features, show a considerable advance on a primitive type; the large imitation rivets cast in the head of the shaft no doubt represent an earlier form in which the shaft was of wood and the rivets real. Ten bronze halberd

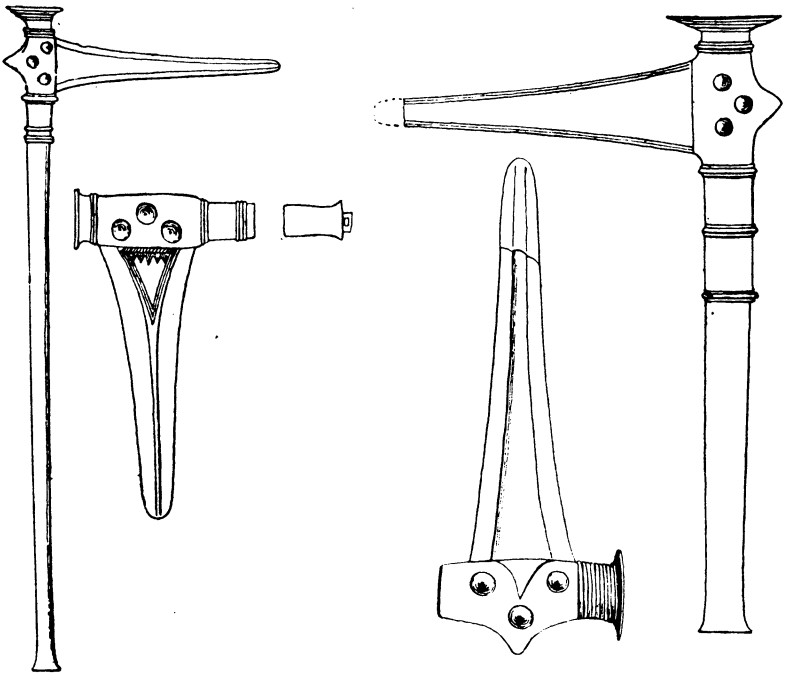


Fig. 11.—Halberds from North Germany and Sweden after Montelius.

blades were found together near Stendal in Prussian Saxony, but without handles, four of which are figured by Montelius in "Die Chronologie der ältesten Bronzezeit," figs. 115–118. An analysis of one of the blades gave 15 per cent. of tin and of a rivet 4·5 per cent. of tin. From the straight mark across the blades, and some bronze tubular pieces for the handles, there seems no doubt that they were intended for straight wooden

handles, and thus represent the earlier type. The blades are about 12¼ inches in length. It is important to note that the rivets are of two kinds: some are large and stout like the usual Irish form; and some have metal washers, like the solitary example found in Ireland (fig. 7), and which has caused some authorities to consider the Irish halberd blades somewhat later than we should care to place them. In general appearance these halberd blades from Stendal are closer to the Irish halberds than any of the others which have been found on the Continent, but do not include the curved or scythe-shaped form common to Ireland. Copper halberds, with remains of transverse wooden shafts, have been found by the brothers Siret on the south-east

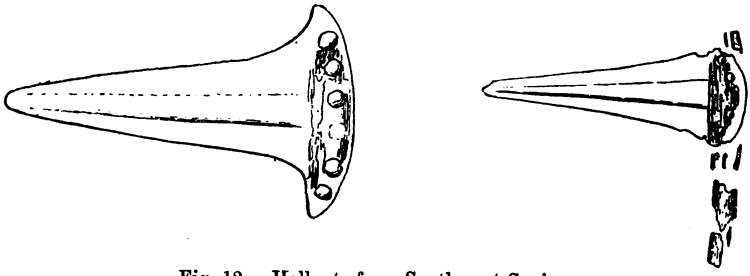


Fig. 12.—Halberts from South-east Spain.

of Spain. In this case they go back to the very beginning of the bronze age in this district. The form of the blades is, however, in most cases T-shaped, and different from the Irish examples (fig. 12). Halberds attached to their shafts are also shown on the prehistoric rock-markings in the "Italian Maritime Alps," published by Mr. C. Bicknell. The actual blades, however, that can be classified with any certainty as halberds are very rare in the North and Middle Italian districts, though some of the copper and early bronze triangular dagger forms may have been occasionally mounted as halberds. It is possible, however, that the decoration of certain halberds found in Germany may have been influenced by that of the Italian dagger.

The halberd blade can be distinguished from the broad dagger by the shape of the handle, which is curved or indented in the case of the dagger, but straight across in the case of the halberd. There is, however, another point. The hindmost rivets, both in the case of the blades with four rivets and those with three only, are shorter than those in front of them. The shortness of the end-rivets and slope of the heads imply that the handle was rounded off behind the blade, as would be the case with a transverse shaft. So there appears no room to doubt the manner in which the long scythe-shaped blades were mounted on handles, though some uncertainty was formerly expressed on the subject. The Irish halberd-blades were

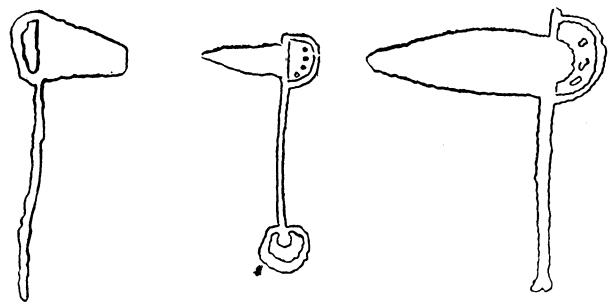


Fig. 13.—Rock Markings, Maritime Alps.

evidently mounted at right angles to the shaft in the same way as most of the Continental blades, as can be seen from the straight-across marks of the handle, which can be traced on several examples.

From the analyses of copper halberds, it will be seen that the tin varies from ·18 to ·31 per cent. We may therefore conclude that the copper halberds are simply coarse or unrefined copper from similar ores to the copper celts; and that the copper implements found in Ireland may contain up to about ·5 per cent. of tin. An increasing percentage of tin was not found in any of the copper celts, or, contrary to expectation, in the copper halberds; but, judging from the widespread

use of copper implements in Ireland, from which it may be inferred that copper remained in use for a considerable time, it seems probable that bronze was introduced as an alloy of a known percentage of tin. As relatively few analyses of Irish bronze implements have been made, it is not possible at present to come to any fixed conclusions on the subject of the introduction of bronze into Ireland.

Also, in the case of the halberds, the great rarity of any specimens of bronze blades which can be classified as halberds

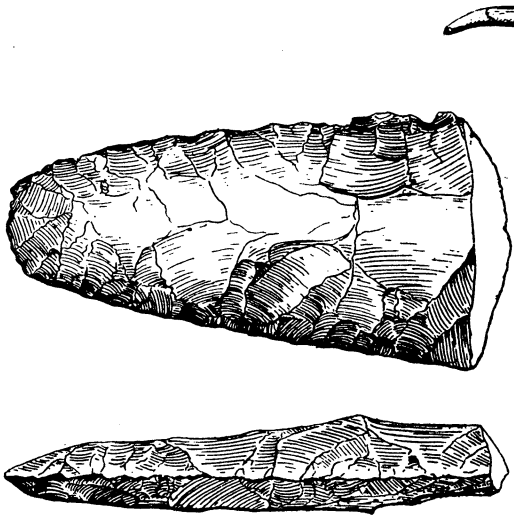


Fig. 14.—Stone Pick from the Bann.

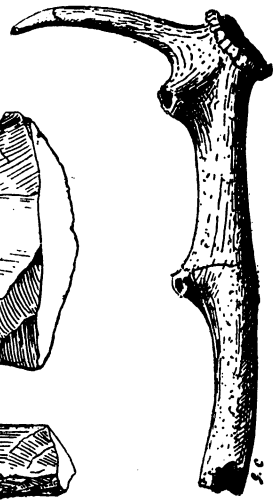


Fig. 15.
Deer Horn Pick.

indicates that the form of implement practically ceased to be used when bronze came into use in Ireland. As the copper celts show a gradual transition from stone to metal forms, it seems reasonable to look for the prototypes of the copper halberd among the stone implements of the preceding period. In the Bann Valley many flint wedges or picks have been found, which may, perhaps, have influenced the copper halberds; and if a stone pick-like instrument was in use in Neolithic times, it may explain to some extent the prevalence

of the metal halberd in Ireland in the copper period. When the blades were made larger, the curved form would come into existence, being suggested by the deer-horn picks already in use. Copper came into use in Ireland, we may suppose, in no sudden or violent manner. On the contrary, the transition from stone was probably of some duration. The use of copper made its way up through Europe, spreading from the lands of the eastern Mediterranean along the old trade routes of Neolithic times, influenced by the search for new deposits of ore. Though at first implements of copper, and even, perhaps, the metal, might be carried a considerable distance, an early use of the local ores seems to explain the case better.

Whether this new knowledge of metal, coming from the eastern Mediterranean, first crept round by way of Spain, or struck across the Continent to the north and west of Europe, and so to Ireland, we cannot at present definitely say; the line of march, as indicated by the halberds, which are strangely deficient both in the south and the north of France, seems to point to north Germany and Scandinavia, by way of the rich ore-fields of middle Europe. But the archæology of the Peninsula for this early period is at present too uncertain to speak with confidence. There are indications, even in Neolithic times, which, perhaps, point to Spain ; but, again, there are relations which indicate a considerable correspondence with Brittany and the North of France in the early Bronze Age. The late Dr. Much ("Die Kupferzeit," p. 131) compared the Irish halberds with the Spanish and German examples, and came to the conclusion that the Irish halberds were later than the Spanish and earlier than the German. This view is supported by the form of the Irish halberds, which are more primitive in type than the German examples.

Any conclusion as to the probable date when the halberds were in use in Ireland can only be arrived at in an indirect and approximate manner. We are, on the whole, inclined to think it is probable that the Irish halberds were influenced by the

Spanish examples; and Herr Hubert Schmidt, who has worked out in much detail a scheme of chronology for this period, based upon the Egyptian dating of Professor Eduard Meyer, places the finds from El Argar at from 2500 to 2360 B.C.* Allowing, therefore, some margin on the later side, we should probably be fairly safe in placing the period when the halberds were in use in Ireland at the end of the third and beginning of the second millennium B.C. We must remember that the whole of the Irish Bronze Age has to be fitted in after the copper period; and if we are to allow sufficient room for the several periods and their approximate correspondence with the periods of the Continental chronology, it is not easy to see how this dating can be much reduced. It may be noted that Montelius in his recent scheme of Bronze Age chronology for the British Islands, treats the halberds as bronze, and places them in his second period (first period of the true Bronze Age) dated from the beginning of the second millennium to the seventeenth century B.C.†

CHAPTER III

First and Later Periods of the Bronze Age

Even during the copper period an evolution can be traced in the celt. The cutting-edge has been expanded; and the thickest part of the celt has been moved up from just above the cutting-edge to the centre. Until, however, we get into the Bronze Age, there has been no trace of a stop-ridge. When we get into the true Bronze Age, we find a complete and probably fairly rapid evolution of type from the flat celt to the final socketed form. Analyses of Irish celts on a large scale have not been made; but such analyses as have been done do not indicate an experimental stage of small additions of tin, but rather show that the

* Prehistorische Zeitschrift, vol. i, 1909, p. 138.

† Archæologia, vol. lxi, p. 162, and pl. xi, fig. 43.

bronze from the first contained a fairly large proportion of tin. Where the tin came from is at present uncertain. The illustrations will make the evolution of the celt clear. The first step was the broadening of the cutting-edge, and moving the thickest part up to the centre of the blade; the next step was hammering the sides to make flanges to grip the handle more securely; a stop-ridge was then added to prevent the handle slipping down over the blade; and the latter forms are

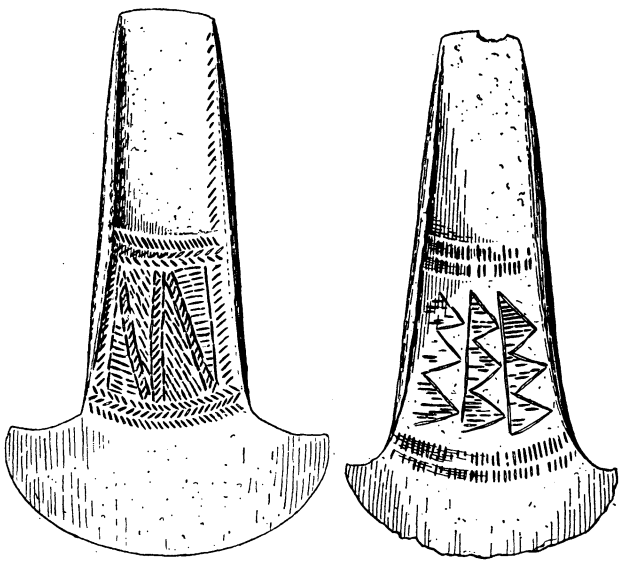
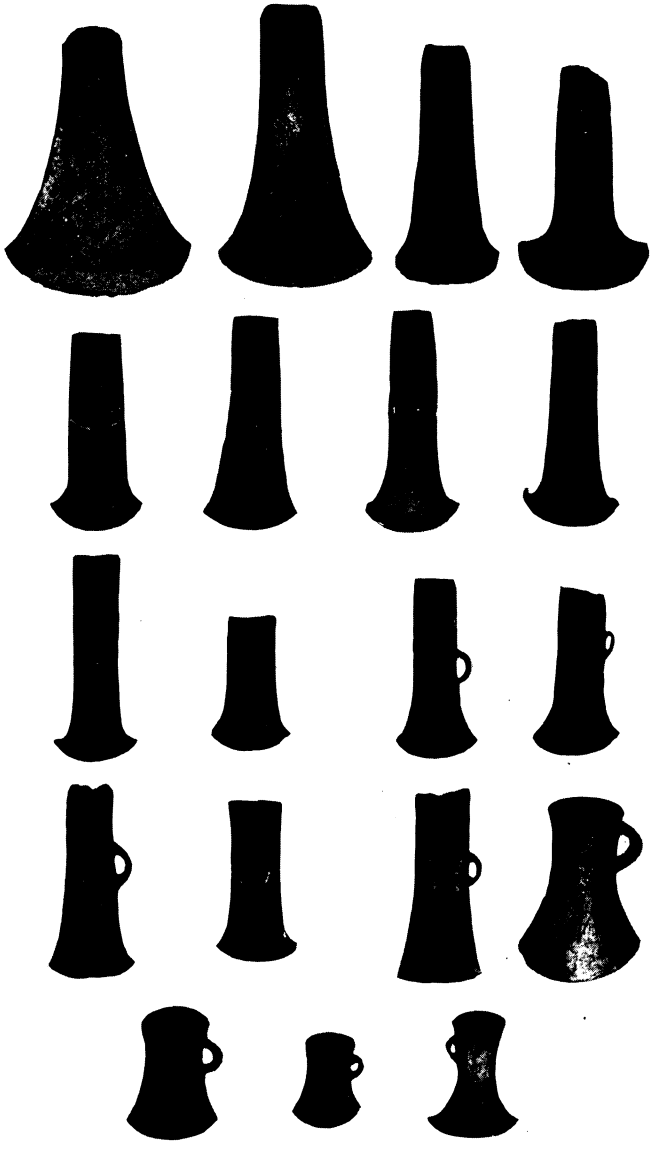


Fig. 16.—Ornamented Bronze Celts ($\frac{1}{2}$).

reached by increasing the flanges and broadening the stop-ridge; in its last forms the wings are increased at the expense of the stop-ridge; and the final socketed form is reached by leaving out the centre division between the wings. Figure 20 may be noticed, as it is very similar to certain Continental forms.

Some of the earlier flat bronze celts may have been hafted like the stone celts, by merely fixing the smaller end into a stick with a thick head; but this method must soon have been abandoned, as after a certain number of blows had been



Irish bronze celts in the order of their development.

To face p. 24.

delivered, the axe-head would be forced back into the shaft. A more practical method was to place the head in a handle having a forked head, and the origin of the stop-ridge was to prevent the two sides coming down too low on to the blade. The side flanges and palstave-form developed naturally from this. The manner of hafting the socketed celts is well shown by a handled socketed celt found at Edenderry, King's Co., and formerly in the Murray collection. This object is now in the

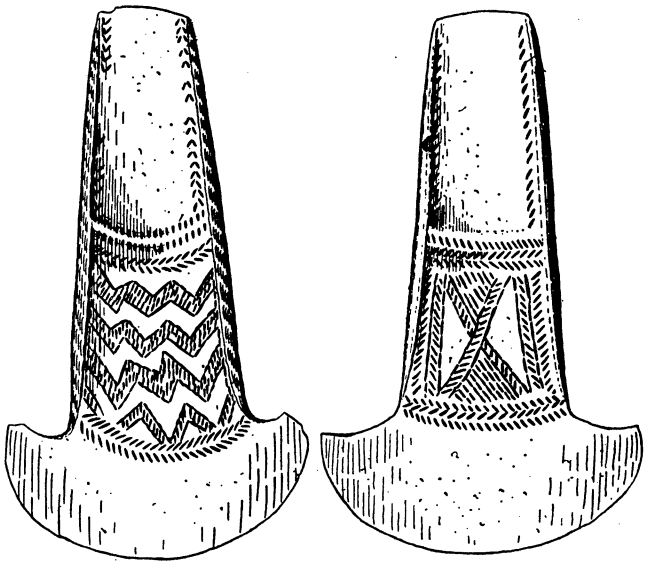


Fig. 17.—Ornamented Bronze Celts ($\frac{1}{2}$).

Ethnological and Archæological Museum at Cambridge; and it is to be regretted that so rare and important a find should have left the country.

Some of the flat bronze celts are very finely decorated with incised chevrons, triangles, cross-hatchings, and other Bronze-Age linear ornament. One example has a kind of herring-bone pattern, somewhat resembling the well-known leaf-marking at New Grange. Some examples show a kind of cable-pattern on the side flanges; and the size of a few specimens is remarkable. A flat celt, with a remarkable ornamentation from

the Greenwell collection found near Connor, County Antrim, is figured by Sir John Evans, *op. cit.*, p. 64. It has a border of chevrons along the edge of the side; and this is carried across the celt in the centre and at the commencement of the cutting-edge. This border is joined by a similar centre band of ornament.

Several of the Irish palstaves have a shield-shaped ornament below the stop-ridge. The socketed celts are, as a rule, unorna-

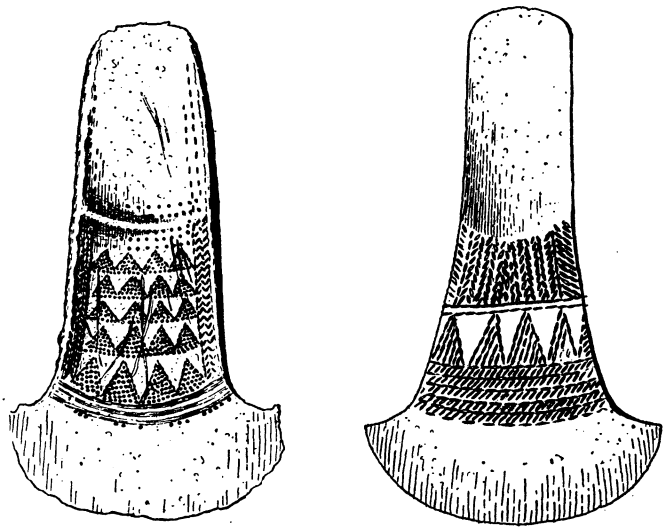


Fig. 18.—Ornamented Bronze Celts ($\frac{1}{2}$).

mented; but there are a few which have been found in Ireland which are ornamented with ribs ending in pellets.

The question is often asked as to whether the bronze celts were used as weapons or tools; and the probability is that they were used as either as occasion demanded. The celts do not show any marked difference of type which would enable us to differentiate a weapon from a tool, as is possible in the later iron axes of the Norman and Danish period when we can distinguish a heavy axe and a lighter keen blade. The Bayeux tapestry shows the two types in use, the heavy type being used to fell trees and the lighter for fighting.

There is one palstave, with double loops, in the National

Collection; and another was found in Ireland at Ballincollig, County Cork, and is in the Evans collection. These double-looped palstaves are of much interest, as the type is characteristic of the Iberian peninsula. A few have been found in the west of France, and some in the south-west of England, but on the route which one would expect to have been followed if they are due to intercourse with Spain. These probably

Fig. 19.
Winged Celt.

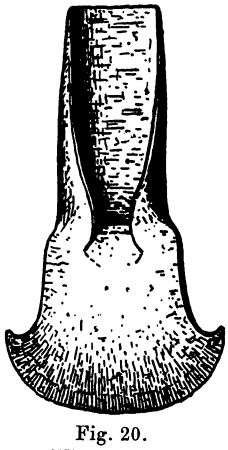


Fig. 20.
Winged Celt.

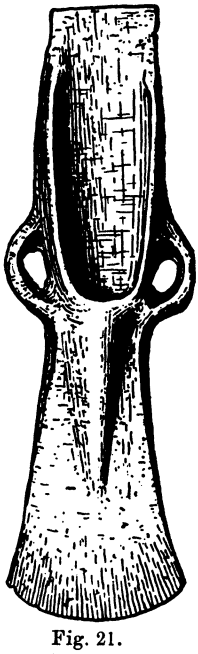


Fig. 21.
Palstave with Double-loops.

belong to the Middle Bronze Age, though they have not as yet been found associated with objects which would give much information as to their date.

Anvil and Hammers

Among objects that may undoubtedly be classed as tools are the small bronze anvil (fig. 22), and the bronze socketed hammers (fig. 23).

The anvil appears to be the only specimen which has been found in the British Islands, though examples are not uncommon in France. It resembles the small anvils used by jewellers, and it is interesting to note that, as M. Déchelette points out, these small bronze anvils correspond to those mentioned by Homer, which were also portable and used by goldsmiths.* Socketed bronze hammers resembling the Irish examples are fairly common in England and on

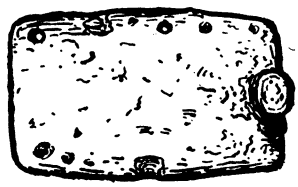


Fig. 22.—Bronze Anvil (½).

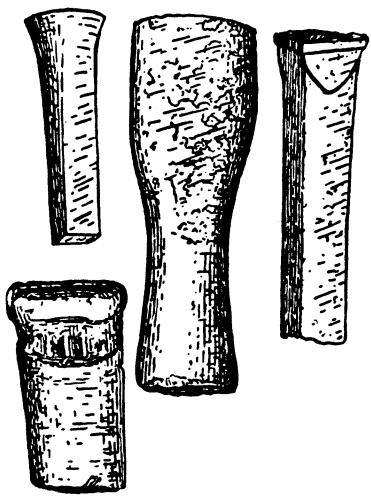


Fig. 23.—Bronze Hammers (½)

the Continent. One well-known Irish specimen was found in the Douris hoard and is figured in Evans's "Bronze Implements," p. 179. Of the specimens illustrated, the largest was found at Abbeyshrule, Co. Longford, the exact locality of the others, further than that they were found in Ireland, is not known.

* Déchelette, Manuel d'Archéologie Préhistorique, vol. ii, p. 277.

Spear-Heads

Even as early as the Copper Period small weak knife-daggers were in use, and these continued into the Bronze Age, becoming the parent of the spear-head as well as of the rapier and sword. The spear-head was evolved by decreasing the width of the

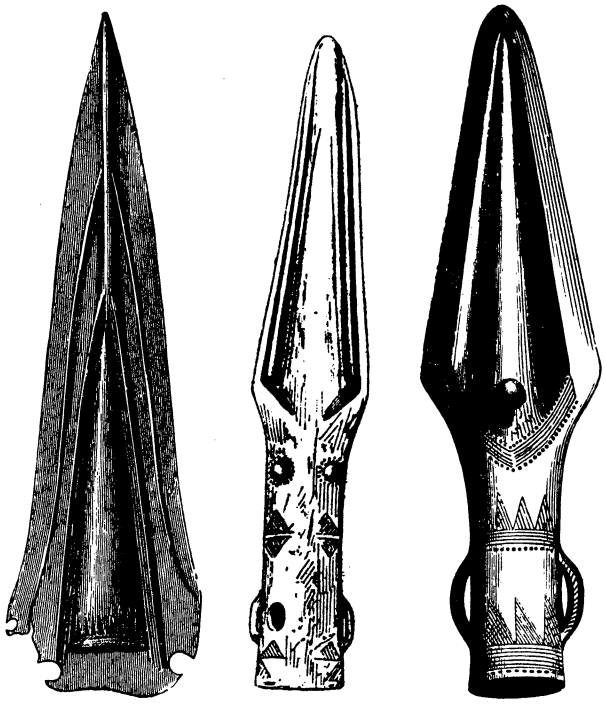


Fig. 24 ($\frac{1}{2}$).

base of the dagger-blade, and adding a narrow tang with a peg-hole to fix into the shaft. The addition of a ferule was the next step; and the omission of the tang, and amalgamation of the ferule with the blade, gave rise to the socketed spear-head.

The Irish spear-heads may be divided into two well-defined groups, looped and riveted; and it will be found that the separation of the types extends farther than the mode of attachment. The form of the blade of each class is quite distinct. Taking the looped spear-heads first, we can

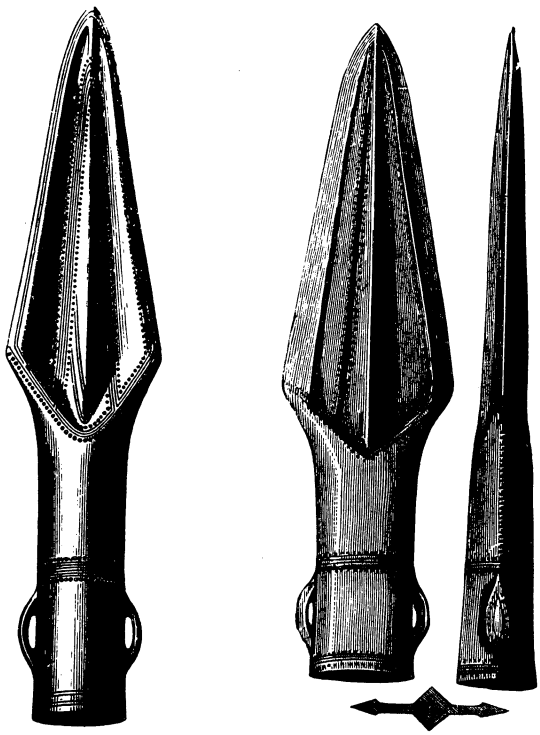


Fig. 25 ($\frac{1}{2}$).

follow the development of the spear-head from the dagger-blade. The adaptation is shown in fig. 24 (the centre spear-head), which is, in fact, a dagger-blade placed on a socket. The socket does not enter the blade, but is stopped at the shoulders. The V-shaped base of the blade is derived from the dagger, and disappears as the true character of the spear form is developed. A feature of special interest is the survival of the

rivet-heads of the dagger in the form of ornamental bosses at the base of the blade. The rivet-holes appear to have been drilled, and not formed in casting. No examples of this form of spear-head have been found in England; and but one is recorded from the Isle of Man and two from Scotland. In the last example

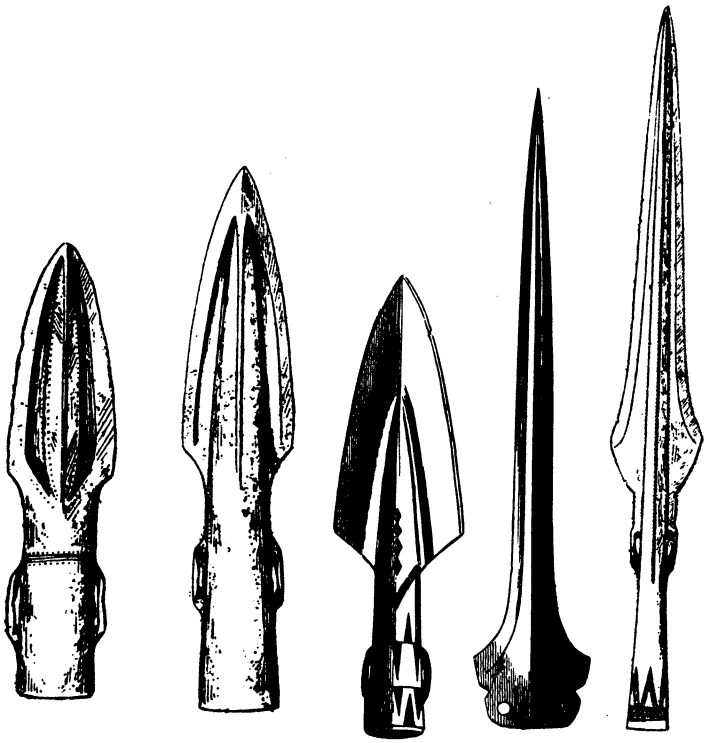


Fig. 26 (½). Fig. 27 (¼).

(in fig. 24), the imitative rivets are reduced to a single boss, and completely disappear in the next stage (fig. 25).

In the subsequent figures we see the blade developed at the expense of the socket; and the transition to the fully developed spear-head begins. The derivation of this form of spear-head from the so-called Arreton Down type of tanged

blade is now admitted. Though tanged spear-heads of the Arreton Down type are fairly represented in Irish finds, no

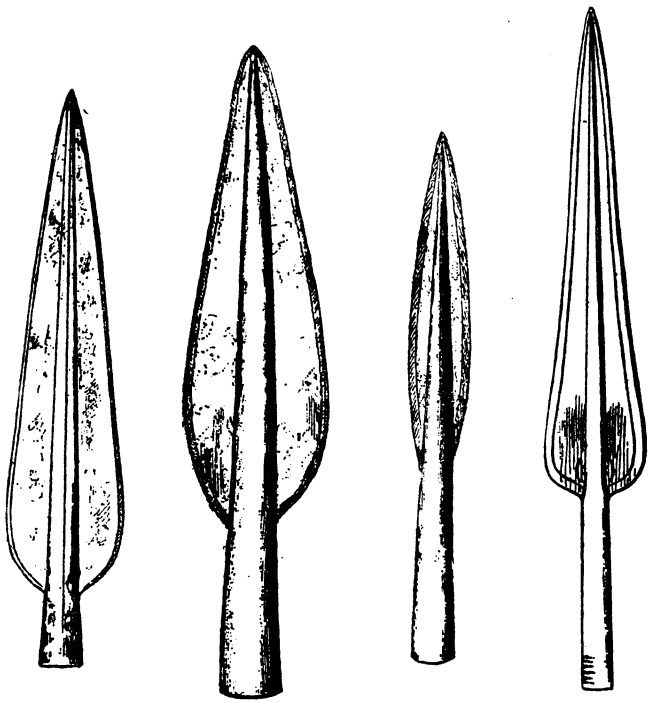


Fig. 28.—Leaf-shaped Spear-heads (¼).

socket has been so far recovered with any of them; but an early form of nondescript tanged blade with a socket was found at Lough Ruadh bog near Tullamore, King's County, in 1910, and shows the socket was known in Ireland.

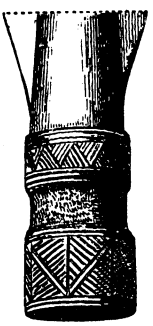


Fig. 29.

Another very early type of spear-head, nearly all the known examples of which were found in Ireland, was derived by mounting the rapier on a socket (fig. 27). There are six of these spear-heads in the collection of the Royal Irish

Academy, and one in the collection of the Royal Society of Antiquaries of Ireland. One of these spear-heads, found at

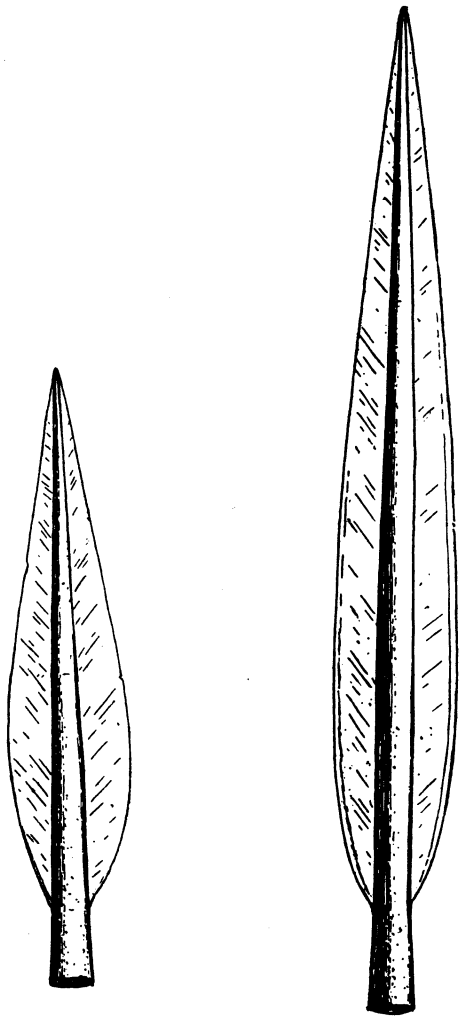


Fig. 30. Leaf-shaped spear-heads found together at the Ford, Belturbet, Co. Cavan (¼).

Taplow on the Thames, has gold studs at the base of the blade

which, no doubt, represent the rivets. The derivation of the spear-head by gradually rounding off the corners of the blade can be easily followed.

We will now turn to the spear-heads with rivet-holes in the sockets, but without loops or openings in the blades (figs. 28

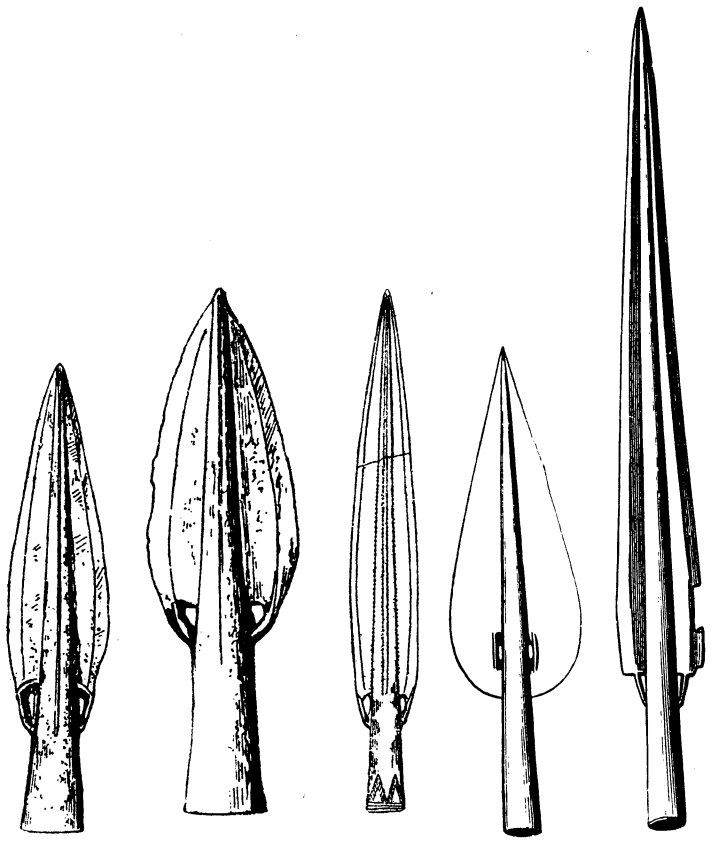


Fig. 31 ($\frac{1}{2}$). Fig. 32 ($\frac{1}{4}$).

and 30). These spear-heads are almost invariably leaf-shaped and devoid of ribs. The pins or rivets used to attach this class to the shaft were probably of wood, horn, or bone. Two examples formerly in Mr. Day's collection have rivets of bronze,

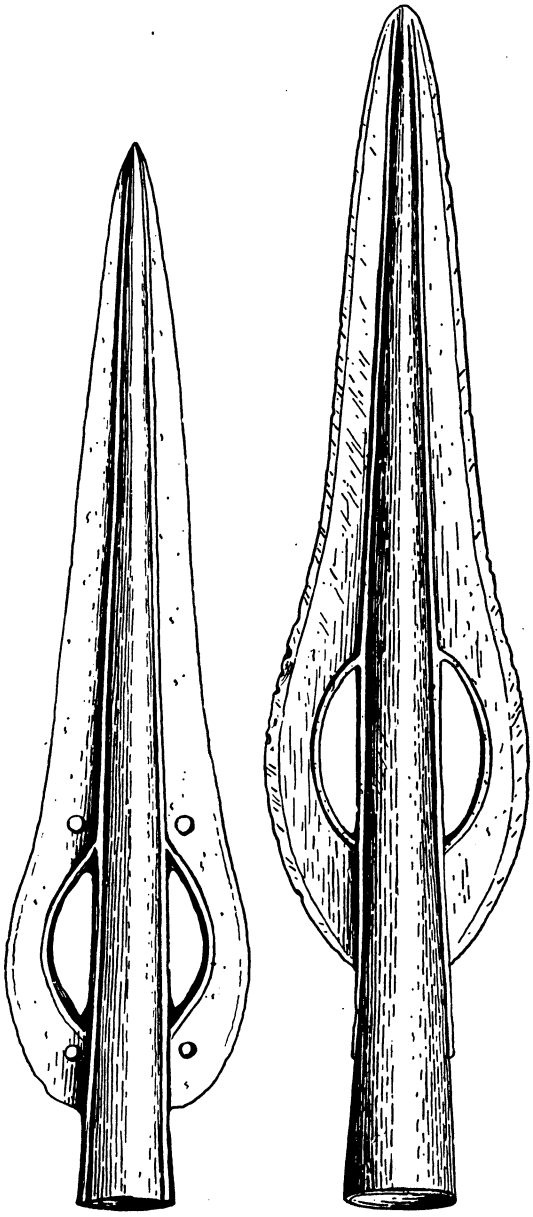


Fig. 33. Ornamental Spear-heads with openings in the blade ($\frac{1}{2}$).

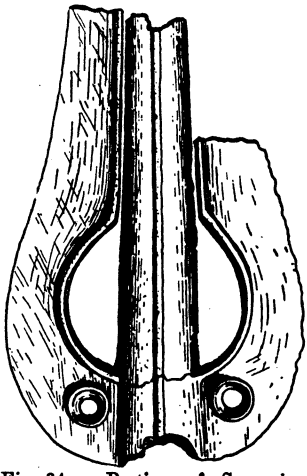


Fig. 34. Portion of Spear-head with studs at the base of the wings ($\frac{1}{2}$).

and others with bronze rivets have been found in England. The leaf-shaped spear-head is associated by form with the leaf-shaped sword; the looped type with the older type of weapons, the dagger and rapier forms. The records of the finds are very incomplete; but the association of leaf-shaped spears and swords to the exclusion of the looped form is sufficiently marked to be noted as an additional piece of evidence.

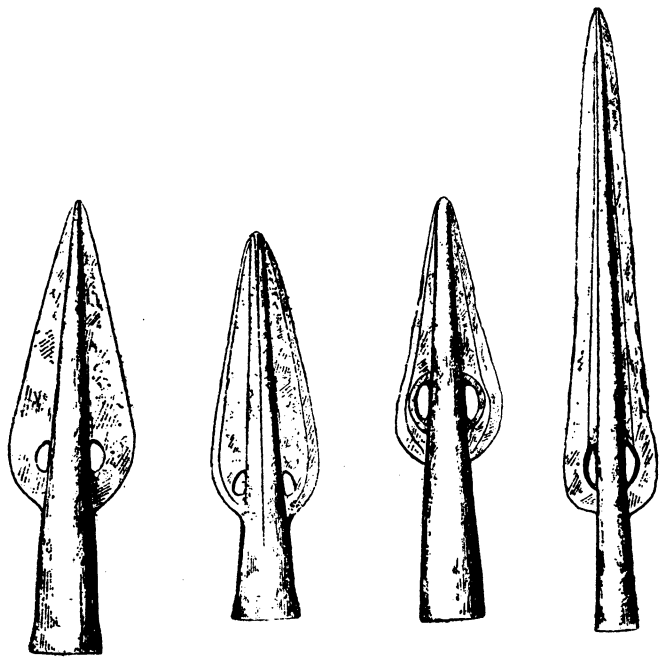


Fig. 35 (½).

There are in the Academy's collection a number of spear-heads with rivet-holes in the sockets and ornamental side-apertures (figs. 33 and 34). These spear-heads are very highly decorated, and form an attractive class. They may be derived from the spear-heads in which the loops are joined to the base of the blade (fig. 31), and in which, by a process of evolution, the loop has been incorporated as part of the wing, or they may also have been influenced by the early type of tanged spear-heads from the Greek islands, in which the openings in the blade were

functional, being used for binding the head into a split shaft.

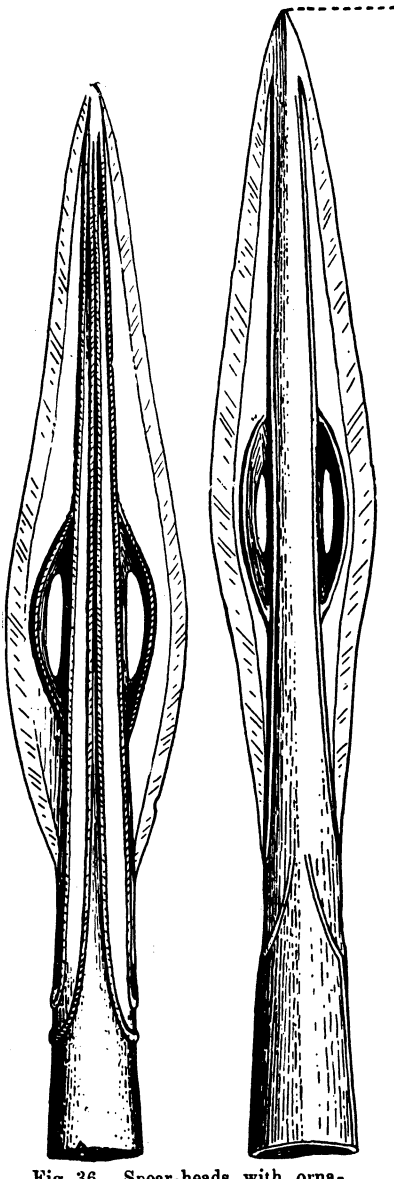


Fig. 36. Spear-heads with ornamental openings in the blades ($\frac{1}{4}$).

Fig. 37. Spear-head found at Tempo, Co. Fermanagh ($\frac{1}{3}$).

These ornamental spear-heads belong, as a type, to the British

Islands, where the socketed spear-head itself appears to have been evolved. Several of these spear-heads have, as well as the wings, small holes in the blades, the purpose of which is not clear. They are very finely cast; and even in Ireland, where Bronze-Age casting reached its highest point, these are amongst its best products.

Another very rare type of spear-head, in which the loops are formed by the extension of the small ribs on each side of the mid rib, must be mentioned. These spear-heads are very seldom met with. We only know of the existence of four,

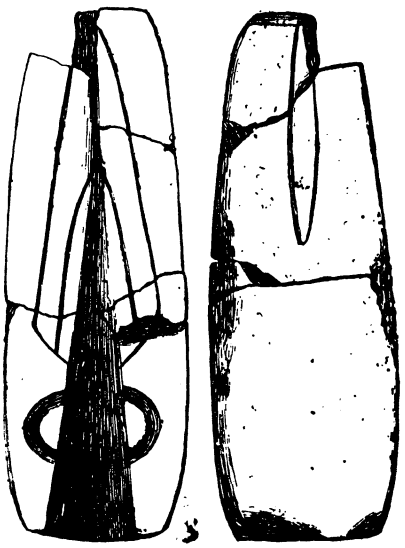


Fig. 38. Half of mould for casting a socketed spear-head, Killymeddy, Co. Antrim ($\frac{1}{2}$).

of which one is in the Greenwell collection, two in the collection of the Royal Irish Academy, and one in the Municipal Museum at Belfast. The Academy was fortunate enough to secure a very fine specimen in 1912. It was found with two leaf-shaped bronze swords at Tempo, County Fermanagh,* and measures 15½ inches long (fig. 37). Judging from the associated swords, this spear-head may be dated about the ninth century B.C.

* Proc. Royal Irish Academy, vol. xxx, sec. c, p. 91.

Moulds

The most important moulds for casting spear-heads found in Ireland are a series for casting early tanged spear-heads which

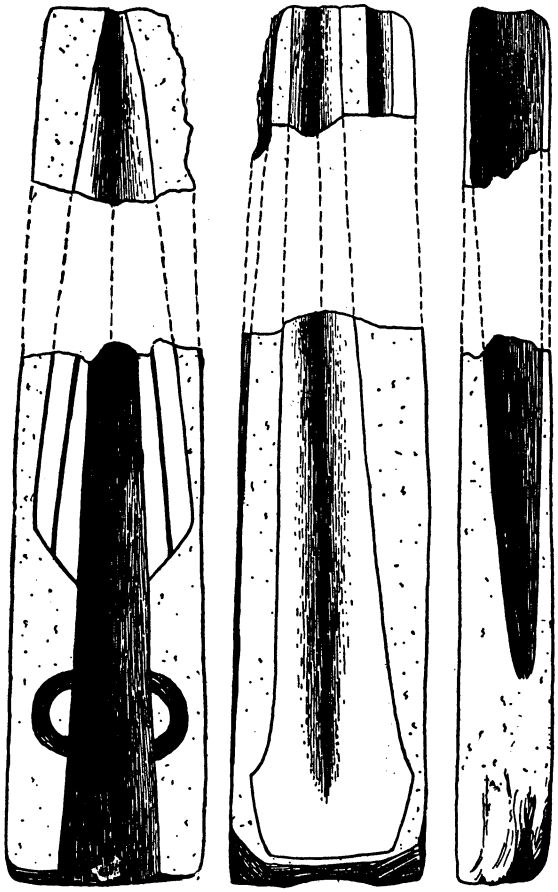


Fig. 39. Half of mould for casting a spear-head and dagger, Killymeddy, Co. Antrim (½).

were found about thirty years ago at Omagh, County Tyrone, and are now in the possession of Mr. M. J. Sullivan. These moulds are of the greatest importance in the history of the

development of the bronze spear-head, as they show the evolution of the tanged blade to the socketed form, and also that the tanged and socketed forms were in contemporary use in Ireland. The form of the moulds for the socketed spear-heads shows them to be at the very commencement of this type; and it was probable that the tanged type was rapidly superseded by the improved socketed form.

These moulds are made of sandstone; and the illustrations

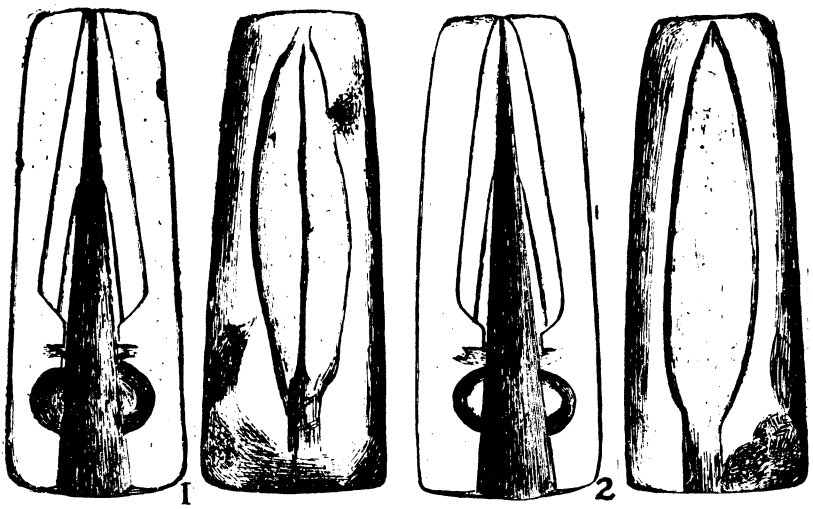


Fig. 40.—Mould for casting spear-head and knife, Killymeddy, Co. Antrim (½).

will show them sufficiently. For a full description see the Journal of the Royal Society of Antiquaries of Ireland, vol. xxxvii, 1907, p. 181.

Another very important find of moulds was made in 1910 at Killymeddy, near Ballymoney, County Antrim., This find included two complete moulds and a half mould for casting looped socketed spear-heads. Of the other moulds for casting spear-heads found in Ireland, nearly all are for the looped type; and the few that have been found for casting the leaf-shaped type are small and indeterminate in character. It is most

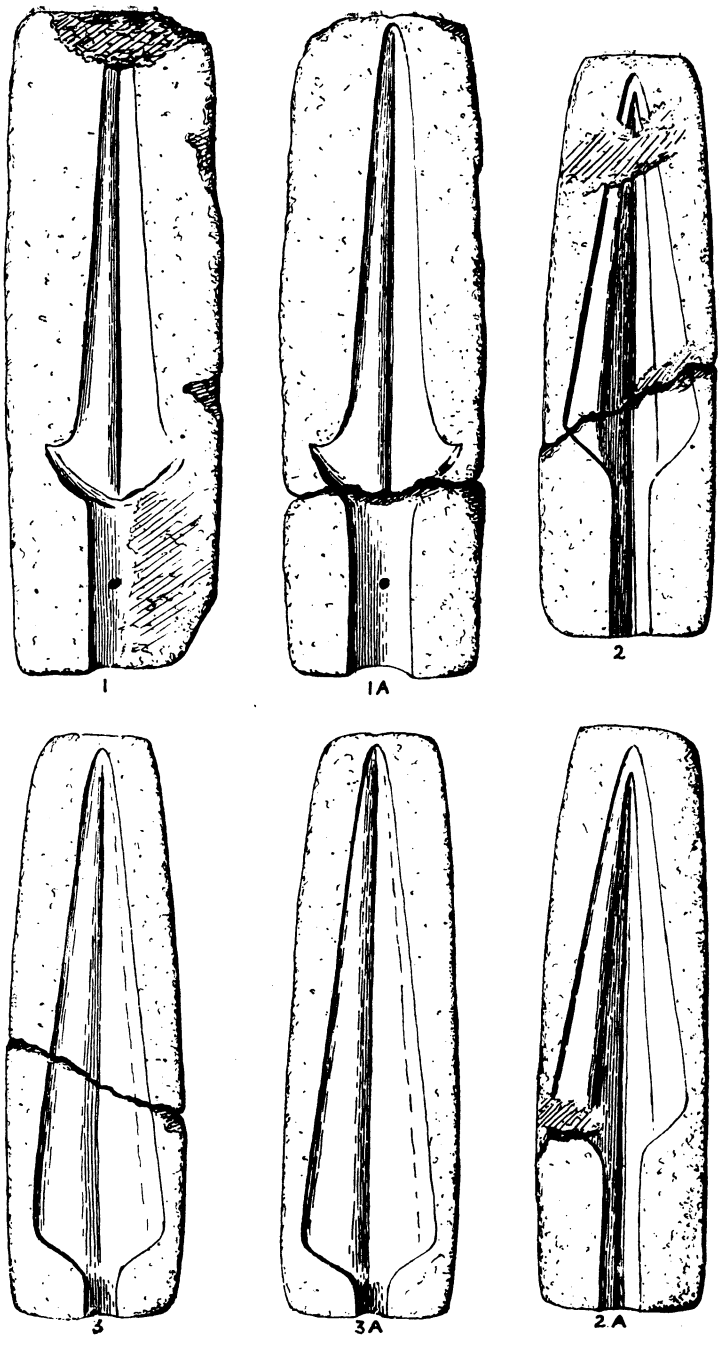


FIG. 41. MOULDS FOR PRIMITIVE SPEAR-HEADS FOUND IN THE COUNTY TYRONE ($\frac{1}{2}$).
(Reproduced from the Journal of the Royal Society of Antiquaries.)

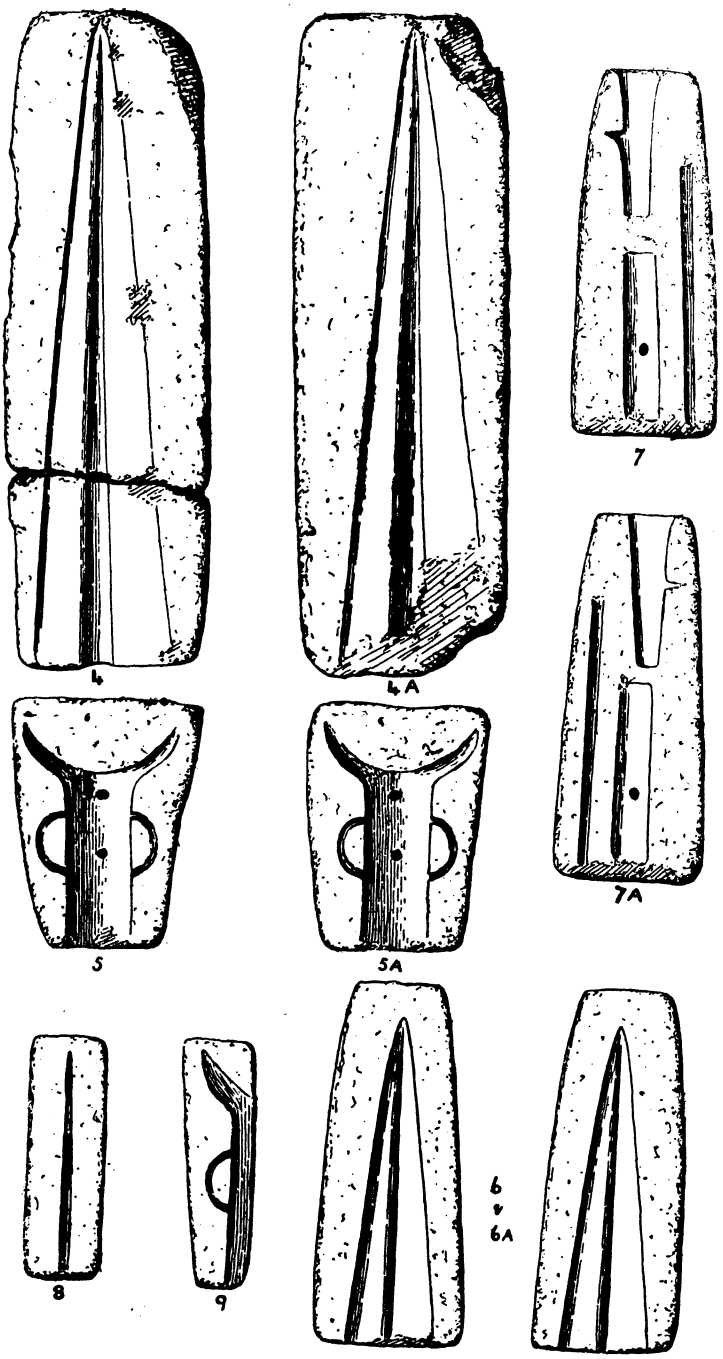


FIG. 42. MOULDS FOR PRIMITIVE SPEAR-HEADS FOUND IN THE COUNTY TYRONE ($\frac{1}{2}$).
(Reproduced from the Journal of the Royal Society of Antiquaries of Ireland.

probable that, with the introduction of the leaf-shaped spear-heads, moulds of clay or sand were introduced; and these have naturally perished. Fragments of a clay mould for casting

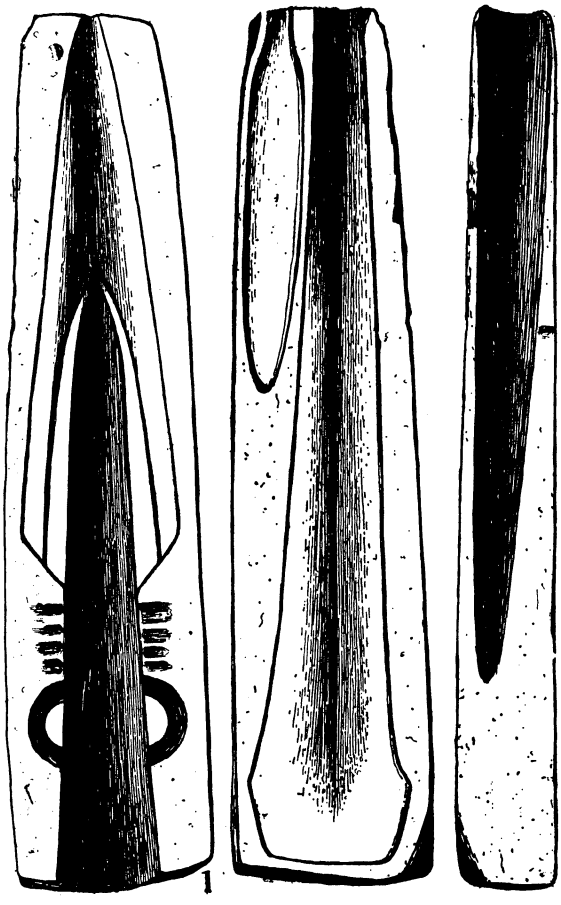


Fig. 43. Half of mould for casting spear-head and dagger, Killymeddy, Co. Antrim (½).

a spear-head and a sword were found at Whitepark Bay, and portions of clay moulds for spear-heads have been found in Brittany, the Lake of Bienne, and other places. The discoveries

of moulds enforce the distinction of type between the looped and leaf-shaped spear-heads, and the moulds from Killymeddy (figs. 38-40 and 43) may probably be placed at the end of the period when stone moulds were in use, and assigned to about 1500–1200 B.C.

SPEAR-FERULES

From time to time objects of bronze have been found in Ireland of a curious shape, somewhat like the handle of a door;

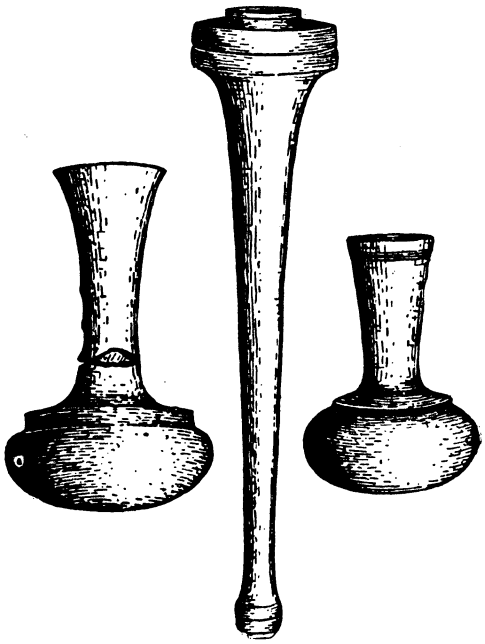


Fig. 44.—Bronze spear ferules (½).

Fig. 45—Bronze spear ferule with La Tène ornament (½).

and their use was considered uncertain; it is, however, clear that

they were the ferules of spears; and in some cases the remains of the wooden shafts have been found inside them. The finding, moreover, of one in the Lisnacroghera Crannog with the whole of the shaft, measuring 8 feet in length, attached to it, places the matter beyond dispute.* It also shows that these objects were in use down to the early Iron Age, as most of the objects of the Lisnacroghera find belong to the La Tène period.

Other ferules assume a long and graceful shape, and one is decorated with La Tène motives (fig. 45).

* Journal Royal Society of Antiquaries of Ireland, vol. xvi, p. 395.

CHAPTER IV

Irish Gold

Ireland's extreme richness in gold during the Bronze Age made her a kind of El Dorado of the western world. The gold was, no doubt, obtained from County Wicklow, where gold was worked down to the end of the eighteenth century, nuggets of 22, 18, 9, and 7 oz. being recorded. One exceptionally large nugget weighing 22 oz., found in 1795 at Croghan Kinshela, Co. Wicklow, was presented to King George III; and its discovery caused a rush to the workings. As well as Wicklow there are six other counties where gold has been found. The very large number of gold ornaments that have been found in Ireland is therefore not surprising. The ancient literature of Ireland contains many references to gold ornaments and payments of gold by weight. It is interesting to note that the tradition preserved in the Book of Leinster, a MS. of the twelfth century, refers the first smelting of gold in Ireland to a district in which gold has been found in considerable quantities in modern times. The Leinstermen, it is stated, were called "Lagenians of the gold," because it was in their country that gold was first discovered in Erin. It is further stated that gold was first smelted for Tighearnmas, one of the earliest of the Milesian kings, in the forests standing on the east side of the River Liffey, by Iuchadan, a native of that district.

After the discovery of native gold in Ballinvally stream at Croghan in 1796, the Government undertook mining operations; and in three years collected 944 ounces, worth, at the price of the day, £3,675. Since the workings were abandoned by the Government, the district has been worked at intervals by companies, and at other times by the peasants; the total output

since 1795 is estimated at a value of £30,000. The knowledge of the Irish gold deposits must have been a very considerable factor in the foreign relations of the island in the Bronze Age.

LUNULÆ

The earliest of the Irish gold ornaments are the flat gold collars known as lunulæ. These have been found fairly evenly distributed over the country, and in astonishing numbers.

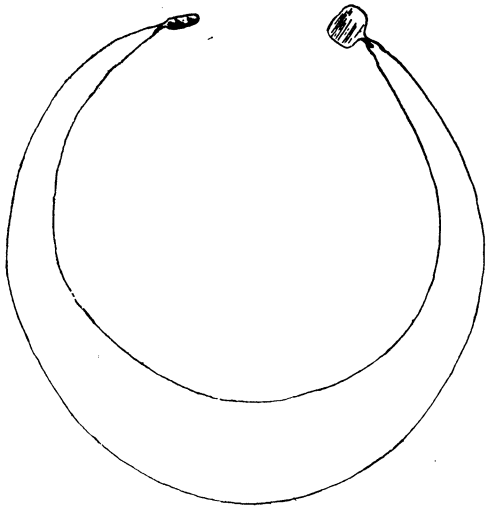


Fig. 46.—Gold Lunula found at Trenta, Carrigans, Co. Donegal (½).

The circumstances under which the lunulæ have been found have not often been recorded. The collection of the Royal Irish Academy in the National Museum, Dublin, contains no less than thirty-seven examples. Several of these have been found and recorded during the past three or four years. As a rule the lunulæ are engraved on one face only with finely cut or scored well-recognized Bronze Age ornament, consisting of bands of lines, cross-hatchings, chevrons, triangles, and lozenges.

The centres of the lunulæ are plain, the exact reason of which is not quite apparent. The ornament is gathered to the end of the lunula and spaced out by bands. Two lunulæ found together at Padstow, Cornwall, are said to have been found with a bronze celt of early type. The find is preserved in the Truro Museum, and is of the utmost importance as an indication of

Fig. 47.—Gold Lunula found in Co. Galway (½).

the early Bronze-Age date of the lunulæ. It is, we believe, the only instance of lunulæ being found with associated objects.

Figures 46–49 and 51–53 illustrate the various types of ornament; it will be noticed that some of the smaller examples are quite plain.

One lunula was found in an oak case at Newtown, Crossdoney,

Co. Cavan. The case has greatly shrunk since it was found, as when first discovered it measured 10 inches by 8 inches (fig. 50).

The two expanded pieces at the ends are always turned at right angles to the plane of the lunula, and serve to clasp the

Fig. 48.—Gold Lunula, locality not recorded ($\frac{1}{2}$).

back of the neck, and may have been secured by a tie. It need not, however, be pointed out that they are quite out of place in a head-ornament; indeed, the geometrical shape of a lunula is contrary to such a theory, and quite different from recognized diadems or head-ornaments.

One example found at Volognes has a chain and sort of buckle attached at the ends. It has since been melted down, but a drawing of it has been preserved (fig. 51). The chain seems to have been ancient—at least it is stated to have been on it, as shown, when found; but, however ancient it may be, it is evident that it was more recently attached than

Fig. 49.—Gold Lunula found at Killarney ($\frac{1}{2}$).

the original make of the ornament. It is, however, of interest as indicating at some time a chain-tie to secure the ends of the ornament.

The accompanying list of finds shows how numerous the lunulæ are in Ireland and how rarely they have been found outside this island. The map shows their distribution (fig. 54).

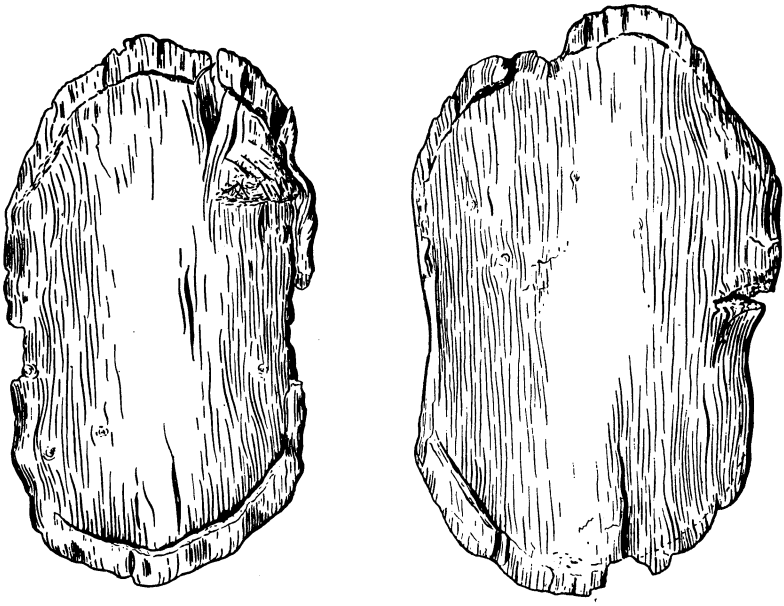


Fig. 50.—Oak case for Lunula found at Newtown, Co. Cavan (½).

Fig. 51.—Gold Lunula found at Valognes, Manche.

Two have been found in the West Baltic at Zealand and Funen. They have otherwise hardly penetrated beyond Brittany. One has recently (1912) been found at Hanover, and another some time ago at Fauvillers, Luxembourg. This failure to penetrate far beyond the coasts of England and

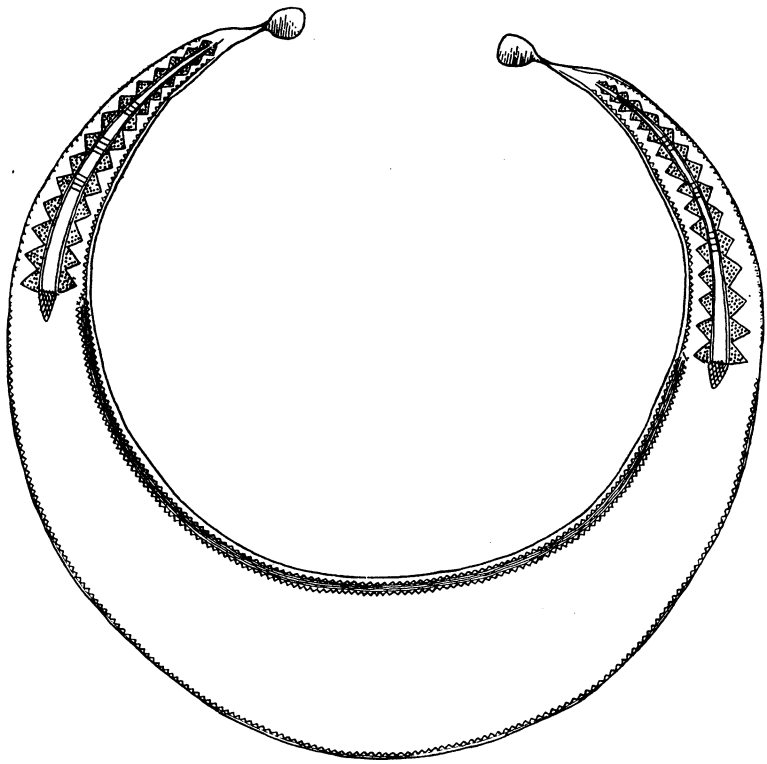


Fig. 52.—Gold Lunula found in Co. Londonderry (½).

Brittany may point to early raids; but the copper and tin of Cornwall, as well as the tin deposits of Brittany and the general trade with Brittany, may indicate the early seeking of the Irish gold deposits. We may take as a provisional date for the lunulæ, 1200 to 1000 B.C.

Lunulæ now existing or known to have formerly existed:—

IRELAND (62 at least).

County.	No.	Reference.
Donegal,	2	R.I.A. 1889: 20 (1). Trenta, Carrigans. R.I.A. 1909: 6 (1). Naran.
Londonderry,	2	R.I.A. W. 12 (1). R.I.A. (loan 1907: 7) (1).
Antrim,	3	Dublin Penny Journal, vol. iv, p. 295.
Down,	1	Castlereagh, Ulster Journal of Archæology, vol. ix, p. 46.
Tyrone,	3	Trillick, R.I.A. 1884: 495 (1). Carrickmore, R.I.A. 1900: 50 (1). Tartaraghan, Ulster Journal of Archæology, vol. ix, p. 47 (at Cecil, Augher) (1).
Mayo,	1	R.I.A. 1909.
Sligo,	1	Windele's Miscellanea, p. 206.
Fermanagh,	1	Enniskillen (Day Coll.).
Monaghan,	1	Ballybay (Day Coll.).
Galway,	1	R.I.A. W. 10 (Sirr Coll.).
Roscommon,	2	Athlone, R.I.A. W. 5, and 1893: 4.
Cavan,	3	Newtown, R.I.A. 1884: 494 (1). Bailieborough (British Museum) (1). Lisanover, Bawnboy. 1910: 45 (1).
Westmeath,	2	Ross, R.I.A. 1896: 15 (1). Mullingar, 1884: 7 (1).
Kildare,	4	Dunfierth, R.I.A. W. 4, 8, 9, and 15.
Clare,	2	Porsoon Callan, R.I.A. 1877: 52 (1). Proc. R.I.A., vol. viii, p. 83 (1).
Tipperary,	1	Glengall (British Museum).
Kerry,	5	Banmore, R.I.A. R., 1755, 1756, 1757 (3): R.I.A., Killarney, W. 2 (1). Mangerton (Brit. Mus.) (1).
Cork	2	Ballycotton (Brit. Mus.) (1), and one or perhaps two in Mr. Cliborn's scrap-book in R.I.A.

In addition to the foregoing there are 16 in the collection of the R.I.A. and 5 in the British Museum, and about 6 in private collections, which are known to have been found in Ireland, but of which the localities have not been recorded.

ENGLAND (4).

Cornwall,	4	Penzance (1), Padstow (2), Lesnewth (1) (Arch. Journ., vol. xxii, 276).

WALES (1).

Carnavonshire,	1	Llanllyfni (British Museum).

SCOTLAND (4).

Lanarkshire, .	2	Southside near Coulter (Anderson, vol. i, p. 223).
Dumfriesshire,	1	Auchentaggart (Anderson, vol. i, p. 222).
Elginshire, .	1	Fochabers (Cat. Nat. Mus., Scot., p. 210).

Fig. 53.—Gold Lunula found at Athlone ($\frac{1}{3}$).

FRANCE (6).

Côtes du Nord,	1	Saint-Potan (Reinach, Revue Celtique, 1900, p. 95).
Manche, .	3	Tourlaville (1), Valognes (1) (Reinach, R. C., 1900, p. 95).
		Montebourg (1) (Cong. Arch. de France, 1905, p. 301).
Vendée, .	2	Bourneau (1), Nesmy (1) (Reinach, R. C., 1900, p. 95).

BELGIUM (1).

Luxemburg, .	1	Fauvillers (Cong. Arch. de France, 1905, p. 302).

DENMARK (2).

Zealand,	.	1	Grevinge (A. f. Anth. xix, 9).
Funen,	.	1	Skogshöierup (A. f. Anth. xix, 9).

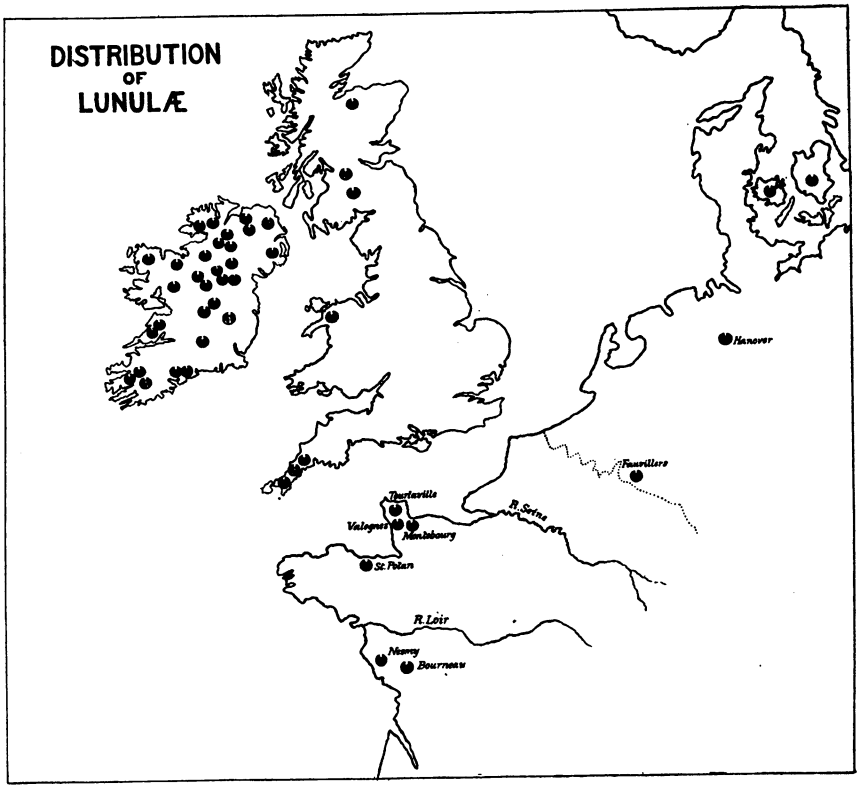


Fig. 54.—Map showing the Distribution of Lunulæ in Ireland and Europe.

GERMANY (1).

Hanover,	.	1	Schulenburg (Leine) Springe (1911).

CHAPTER V

Daggers and Rapiers

As has been mentioned, as well as being parent to the spear-head, the small weak knife-dagger frequently found in early Bronze-Age burials also developed into the true dagger-blade, and in course of time into the sword. Bronze daggers have often been found in Ireland; there are about forty in the National Collection. Among the most interesting finds of

Fig. 55.—Stone celt, Bronze dagger with gold band, and Urn found in Topped Mountain Cairn, Co. Fermanagh.

these early daggers may be mentioned that discovered in 1897 at an interment at Topped Mountain Cairn, County Fermanagh. This dagger measures 5⅝ inches, and is covered with a beautiful blue patina. It is decorated with raised lines on each side of the blade, and has two small rivets. It was discovered in a cist in the cairn lying at the right side of the skull of an uncremated body, and in the same place was a small

band of gold which appears to have been half of a band of that metal which was probably round the handle of the dagger (fig. 55). Another interesting find is the small bronze dagger

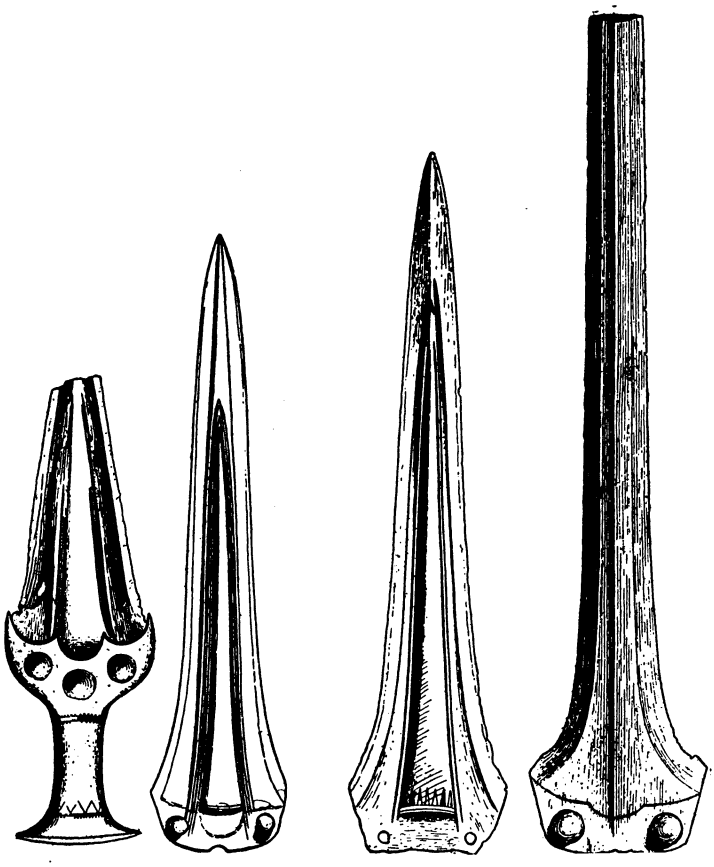


Fig. 56.—Dagger and Rapier blades ($\frac{1}{3}$).

discovered with urns and cremated bones in a cist at Annaghkeen Cairn, County Galway, in 1908.

In course of time the length of the dagger-blade was increased; and later examples are wonderful specimens of

casting. The earlier daggers were either attached to the handle by rivets, or else notches were left in the base of the blade for the attachment. The manner of hafting them is quite clear, as a few hafted examples have been found. Some had bronze handles cast separately (fig. 56); others had handles of horn or wood (fig. 57); but the hilts for the most part were made of some perishable substance, and they have consequently not been recovered. The scolloped mark left by the hilt is often quite plainly to be seen on the blade. In later times the handle was sometimes cast in one piece with the blade; but the division between the handle and the blade is always quite clearly marked. The decoration of the later dagger-blades takes the form of a number of triangles at the base of the blade, and the extreme similarity in decoration between the Italian and the early northern and western daggers has led Montelius to consider the latter as derived from the former; and this is enforced in the case of the Irish examples by the series of small hatched-triangles which have been found at the base of two well-known Irish examples (fig. 56).

The rapiers were evolved quite naturally by lengthening the dagger-blade; and this form was probably influenced also, as will be mentioned later, by contemporary weapons in use in the Mediterranean lands.

The longest rapier ever found in Western Europe is the splendid weapon found at Lissane, Co. Derry, in 1867, which measures $30\frac{1}{4}$ inches in length (fig. 59). Another very remarkable Irish example is the short rapier found in Upper Lough Erne, and obtained by Mr. Thomas Plunkett, M.R.I.A., from the finder. This weapon is a wonderfully fine piece of casting. It measures $16\frac{3}{4}$ inches in length (fig. 58).

The rapiers belong to the middle and later portions of the Bronze Age. This type of weapon is common in France, and is described by M. Déchelette as widely spread in the British Islands and the north of France, and as having been introduced from there into South Germany and the region of the Middle

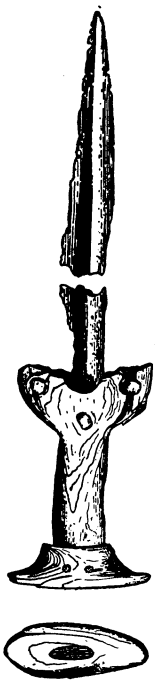


Fig. 57.—Dagger with horn handle found at Ballymoney, Co. Antrim.

Fig. 58.—Rapier found in Upper Lough Erne ($\frac{1}{3}$).

Fig. 59.
Rapier found at Lissane, Co. Derry ($\frac{1}{4}$).

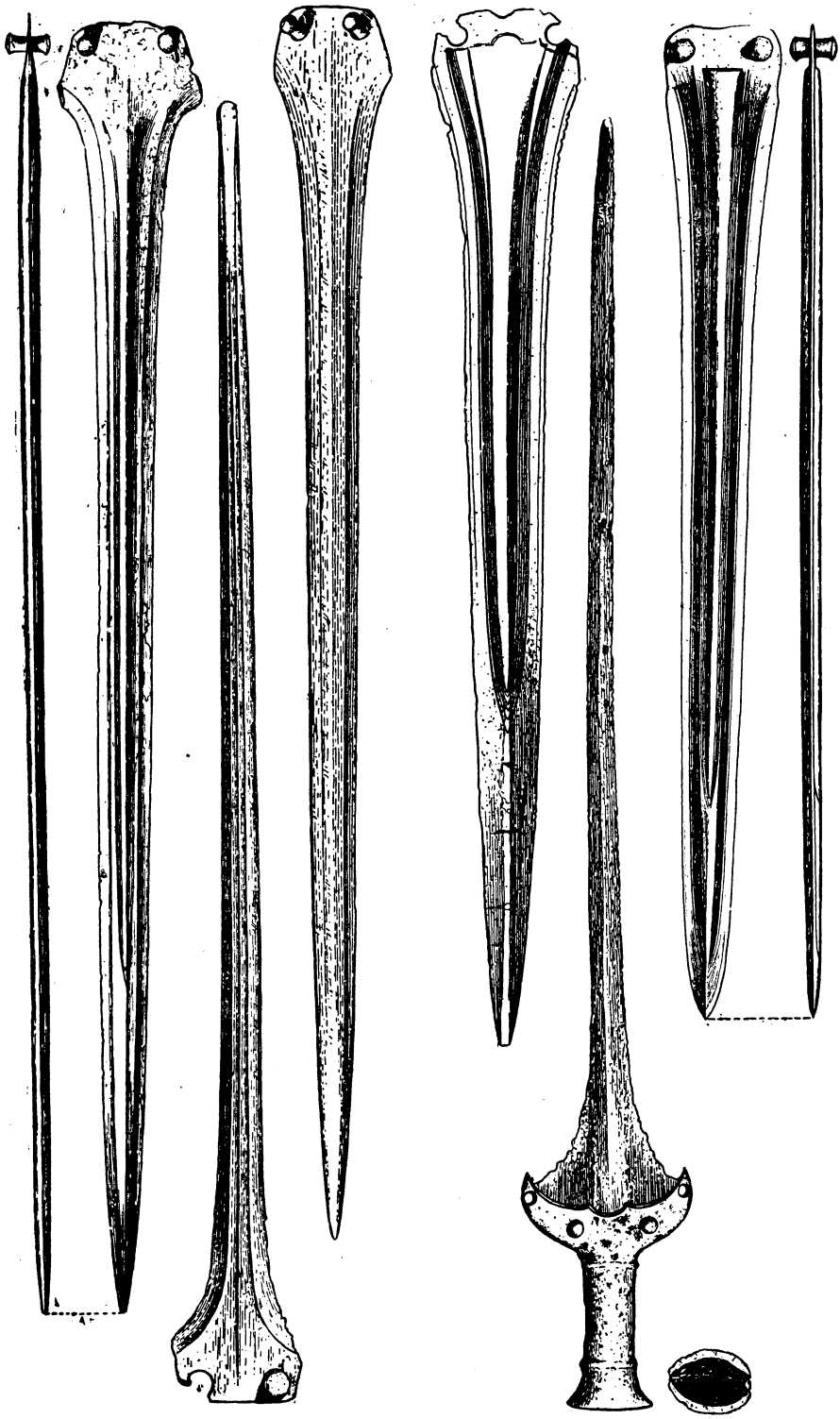


Fig. 60.—Rapiers and Daggers found in Ireland ($\frac{1}{8}$).

Rhine.* The rapiers of advanced type he places in the third division of the Bronze Age, as they have been found in Bronze-Age tumuli of that period, as at Staadorf, Haut Palatinat (1600–1300 B.C.). Montelius places the rapiers in his fourth period dated at the end of the fifteenth to the middle of the twelfth century B.C.,† so that his dating of these objects practically coincides with that of M. Déchelette. It is now well recognized that the swords of the Ægean-Mycenæan area were developed on parallel lines to those of Western Europe. We find that the long rapiers or thrusting swords are developed from the tanged Cypriote dagger, and that the true sword is a later evolution from the rapier. It is hardly to be doubted that some of the western forms of daggers and rapiers were influenced by Mycenæan types; and the discovery in Sicily of rapiers of Mycenæan type with pottery dated as recent Minoan III, establishes a direct bond between the Ægean and Western Europe.‡

* "Manuel d'Archéologie," vol. ii, p. 208.
† "Archæologia," vol. lxi, p. 162, and pl. xv.
‡ "Manuel d'Archéologie," vol. ii, p. 214.

CHAPTER VI

Gold Gorgets

Among the most striking of the gold ornaments in the National Collection are the five gold gorgets or neck-collars,

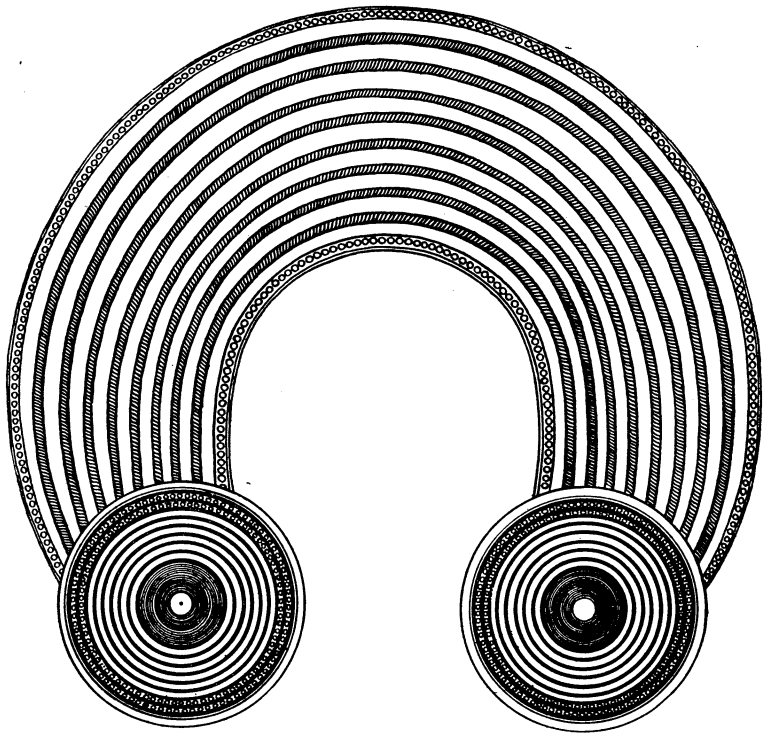
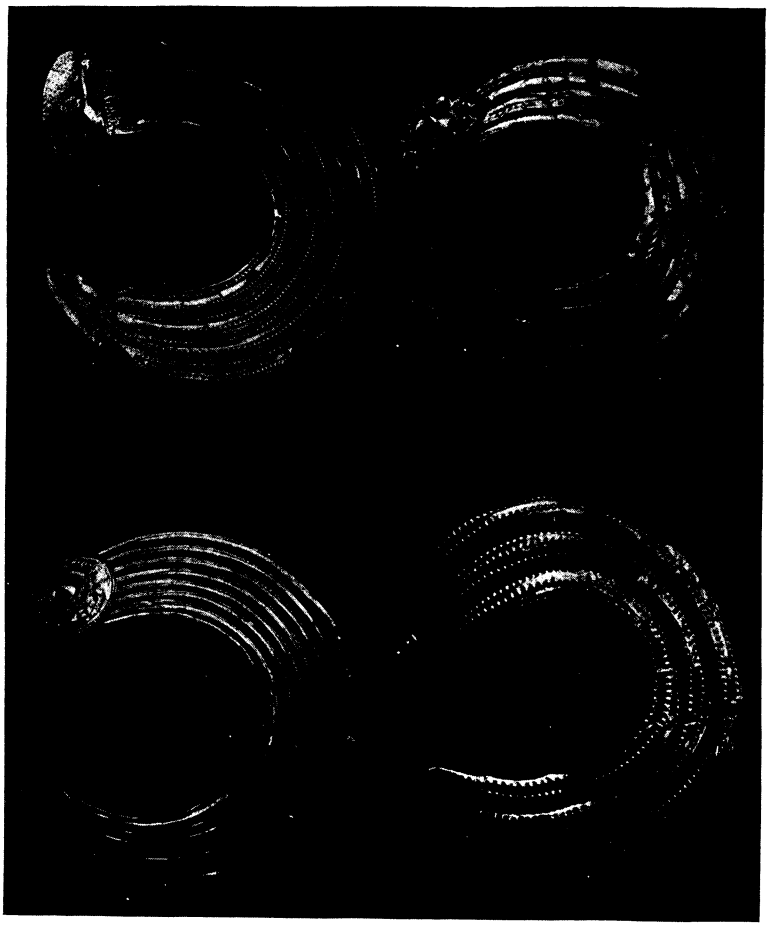


Fig. 61.—Gold Gorget found in Ireland, formerly in the possession of the Earl of Charleville. From Vetusta Monumenta, Vol. v, Pl. xxviii.

with the ends decorated with ornamented disks. These are very elaborately decorated, and of great massiveness. Two



Irish Gold Gorgets.

To face p. 62.

others mentioned as having been found in Ireland, one of which was formerly in the possession of the Earl of Charleville, were figured in "Vetusta Monumenta." Vallancey states that another was found in the County Longford. A few disks have also been found which may have been portions of these gorgets. The neck-portion of the gorgets is arranged in three rows of raised ridges, and these are ornamented with rows of small bosses, the depressions of the ridges being occupied with a narrow rope-shaped fillet. In some cases the ridges are left plain. The small disks at the terminals of the collar are remarkable; they measure about $2\frac{7}{8}$ or 3 inches in diameter, and are decorated with a centre and side bosses, surrounded with concentric circles. They much resemble in miniature the round shields or bucklers of the late Bronze Age, but they also show some resemblance to the so-called sun-disks which have been found in Ireland, and which will be described later on. Unfortunately the gorgets have in no case been found with any accompanying objects which would assist in dating them, and in fact in only two cases have details as to their finding been preserved, one found at Ardcroney, near Nenagh, County Tipperary, the other at Tony Hill, Croom, County Limerick. Their ornamentation, however, would seem to place them in the Hallstatt period, first Iron Age, which may be dated at about 700–600 B.C. Their form and ornamentation may be compared with that of the splendid gold collar from Cintra, Lisbon, now in the British Museum,* and also with the triple bronze collars common in Scandinavia and north Germany, all of which are referred to the Hallstatt period. This period is at present not well represented in Ireland or the British Isles; and it is doubtful whether iron came into general use in Ireland till about the third century B.C.

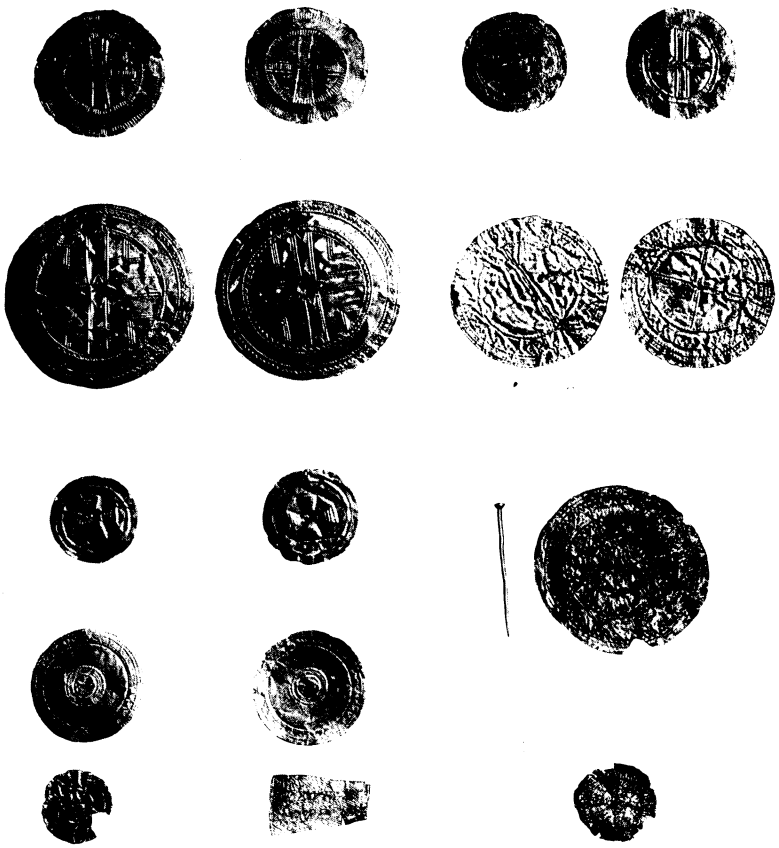
One point of much interest must be noticed. In one of the gorgets shown in Plate II, where the disk is attached to the

* "British Museum Bronze-Age Guide," p. 148.

gorget, above the line where the end of the plate passes into the boss, three perpendicular and two cross-stitches can be seen. Some of these sewings are made by means of slight square wire, but in others the fastenings are composed of fine woollen thread, round which is twisted spirally a thin, flat strip of gold. These strips are one of the oldest specimens of woollen cordage now in existence in Ireland.

Gold Sun-disks

We have already referred to the flat disks of gold, a number of which have been found in Ireland. There are four in the British Museum, and no less than fifteen in the National Collection at Dublin. In four cases they have been found in pairs—one pair at Ballina, County Mayo, another pair at Tydavnet, County Monaghan, a third at Cloyne, Co. Cork, and the fourth at Castle Martyr, Co. Cork. Some of these disks are ornamented with concentric circles; others have a cruciform ornament which resembles the four-spoked chariot-wheel, and is a well-known sun symbol. When these objects were first discovered, their origin and use were quite unknown; and Mr. Reginald A. Smith, of the British Museum, was the first to point out their resemblance to the gold disk, decorated with spirals, affixed to a bronze sun-chariot, found in Trundholm Moss, Zealand, in 1902. The bronze chariot consisted of a bronze disk mounted on wheels and drawn by a horse, the gold disk being affixed to the bronze one. The ornamentation of the Irish disks is somewhat different, as the spiral does not appear, its place being taken by the concentric circle. The Trundholm sun-chariot is dated by Prof. Sophus Muller at before 1000 B.C. The Trundholm disk is admittedly connected with sun-worship, as is also the cruciform ornament on the Irish disks. The spoked-wheel is a well-known solar symbol; and similar designs have been found on the bases of some Irish food-vessels, and may also be compared with some of the



Gold sun-disks.

To face p. 64.

markings at Dowth.* The prevalence of sun-worship in the Bronze Age need not be further gone into here; but the gold disks are of great interest, as furnishing another point of contact between Ireland and Scandinavia in the Bronze Age. The finding of Irish gold lunulæ in Denmark, and the occurrence of Scandinavian amber in Irish finds of the Bronze-Age, have already been mentioned.

Gold Balls

We may also mention the large hollow golden balls of which seven are in the National collection, one in the possession of Mr. H. J. B. Clements, and another in the British Museum. Eleven of these golden balls were found in 1834 at Carrick-on-Shannon.† There has been much conjecture as to the use these balls were put to, and it has been suggested that as their large size would render them inconvenient as personal ornaments, they were probably used to decorate a horse. If so they may have been attached to the bridle like the large balls shown on the horses' bridles in the bronze scabbard from Hallstatt, dated La Tène I. See Déchelette, "Manuel d'Archéologie," vol. ii, p. 770. The Golden Peytrell found at Mold, Flintshire, may be instanced to show that gold was sometimes used to decorate horses; and if the gold balls were really used for this purpose, we may well endorse what the author of the "British Museum Bronze-Age Guide" says when he writes: "A discovery of this kind demonstrates in a striking manner the abundance of gold at the end of our Bronze period."‡

Clare Find

Another type of neck-ornaments are the thin gold gorgets with funnel-shaped ends, many of which were found in the great Clare find. These gorgets are quite plain, except for a

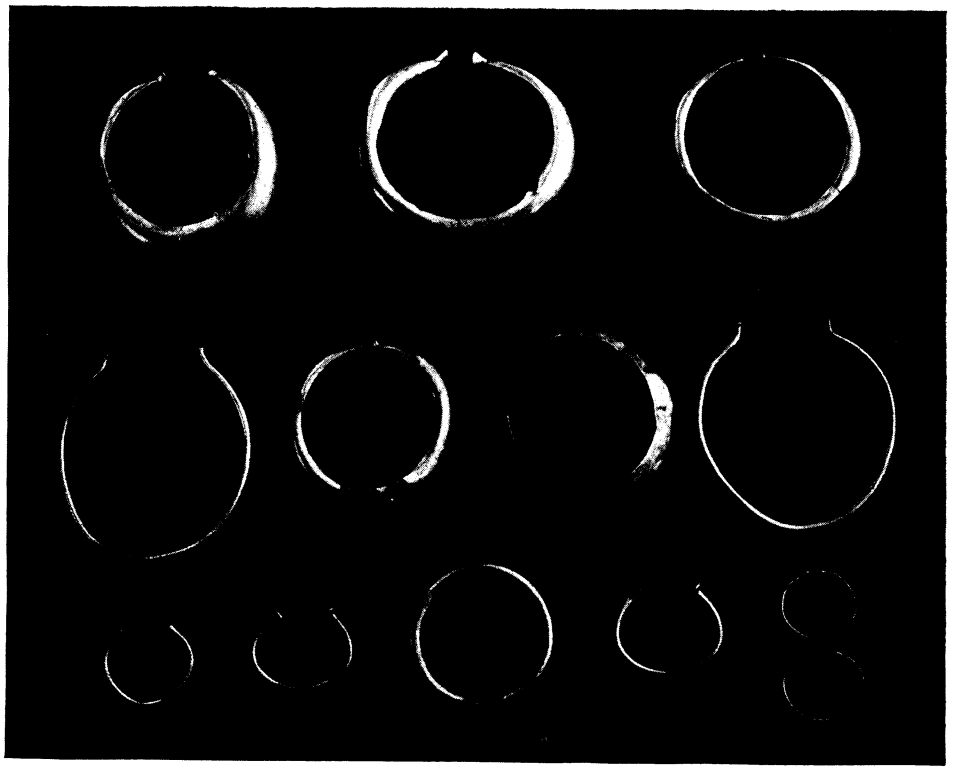
* "New Grange and other Incised Tumuli," p. 59, fig. 39.

† Proc. Royal Irish Academy, vol. xxx, Sec. C, p. 450.

‡ "British Museum Bronze-Age Guide," p. 150.

little ornamentation at the extreme ends near the funnel-shaped extremities. There are five of these objects in the National Collection, and all were found together in the celebrated Clare find. This find—the largest collective one of gold objects ever made in Western Europe—was discovered in making a railway-cutting for the Limerick and Ennis Railway in 1854. A gang of labourers were digging near an old hawthorn-bush, a little distance to the south of the railway bridge in Moghaun north, on the west side of the line of the great fort, and opposite the lough, when they undermined a kind of cist. The fall of one of the containing-stones disclosed a mass of gold ornaments—gorgets, bracelets of all sizes with cup-shaped ends, and a few ingots of gold. The find, from a numerical point of view, far surpassed anything ever made, but none of the objects were highly ornamented or of a special type.

The fact of this immense number of gold ornaments being hidden in a cist in this way has given rise to many conjectures; but in the absence of any other explanation, it may be suggested that the objects had been collected together, and hidden purposely, with the idea of returning and regaining possession of them later. The value of the find has been estimated at at least £3,000. Unfortunately, most of the objects were sold to jewellers and melted down, but a large number were exhibited at the Archæological Institute by Dr. Todd and Lord Talbot de Malahide in 1854, and casts of these were taken, and a set is now in the National Collection. There are also a small number of the originals in the Royal Irish Academy's collection (Plate IV). Otherwise such objects of the find as escaped the melting-pot were scattered, and have found their way into different museums and private collections. As has been mentioned, the objects of this find did not show any remarkable types, and for the most part consisted of very thin bracelets and penannular rings with cup-shaped ends. It is probable that, as well as being ornaments, they served as a kind of currency.



To face p. 66.

Portion of the great Clare find.

PLATE IV.

Penannular Rings and Ring-Money

The large number of penannular rings with cup-shaped ends which have been found from time to time in the island, brings us on to the general question of the so-called Irish fibulæ.

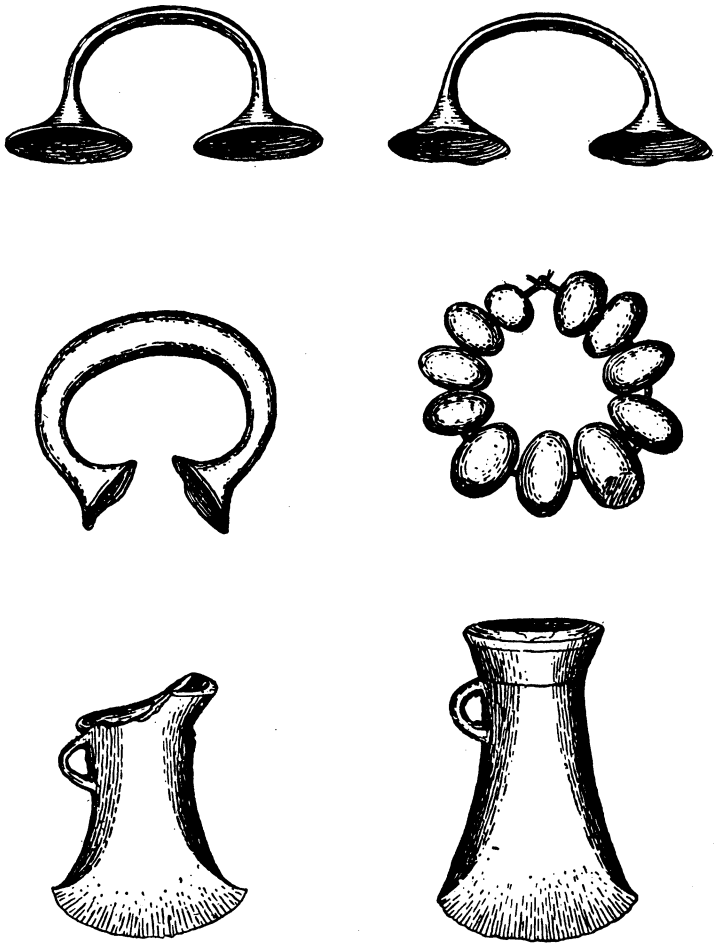


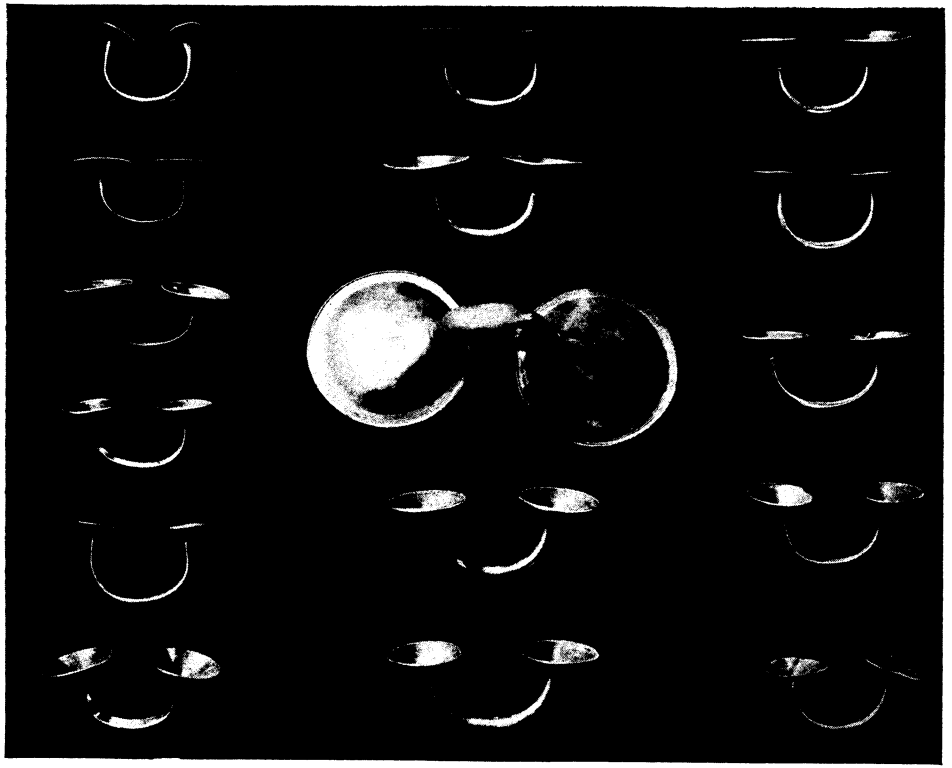
Fig. 62.—Gold fibulæ, and other objects found together at Coachford, Co. Cork (½)

In Ireland penannular rings with cup-shaped ends of copper or bronze are very rare, only about half a dozen being known,

while fibulæ of gold are exceedingly common. The Coachford find, in which amber beads, gold fibulæ, and a copper or bronze fibula were all found together, shows that the objects were contemporary; and as this find may be placed at the end of the Bronze Age, it shows that these objects were in use at that period (fig. 62). On the other hand, it is likely that their use began earlier and continued for a long period. These objects when made of gold are of two shapes—in the one case the expanded

Fig. 63.—Sixteenth-century bronze casting from Benin, showing Europeans holding manillas (after Read and Dalton, *Antiquities of the City of Benin*).

cups are large and flat and the connecting bar is bow-shaped, and is striated. These have been conjectured to have been used as brooches for fastening a garment; and their form was probably influenced by the Scandinavian spectacle-brooches, the bows of the latter having, in some cases, the same decoration. Except for the striations on the connecting link, the Irish so-called mamillary fibulae are almost always plain; but



To face p. 68.

Gold Fibulae.

PLATE V.

Vallancey has figured two examples, one of which is engraved with triangular, and the other with lozenge, ornaments. There is also the well-known example in Trinity College, Dublin, in which the surfaces of the cups are completely covered with concentric circle ornament, the inside rims of the cups being decorated with hatched triangles, and the neckings of what may

Fig. 64.—Sixteenth-century bronze casting from Benin, showing natives holding manillas (after Read and Dalton, *Antiquities of the City of Benin*).

be called the handle, with chevron and herring-bone pattern, while along the back of the handle is an ornament of lozenges. In the second type these objects assume the shape of a bracelet; and the expanded ends are sometimes cup-shaped and sometimes plain. From the extreme similarity between the shape of these, whether in gold or bronze, to the so-called African

manillas, it has been conjectured the Irish examples, like the African, may have been used as a medium of exchange; and on the whole it seems probable that such was the case, the dividing line between what were used for ornaments and what may have been used for exchange not being at all easily defined (figs. 63 and 64).

Ring-Money

The question of a medium of exchange leads us to mention the very small gold penannular rings, the largest being about an inch in diameter, frequently found in Ireland, which are known as 'ring-money.' There are fifty-six in the National Collection; and a find made near Belfast of a socketed bronze celt in association with some of these objects shows they were in use during the late Bronze Age.* Attention has been called to the similarity of these Irish gold rings to the penannular copper rings plated with gold often found in early Japanese burials.†

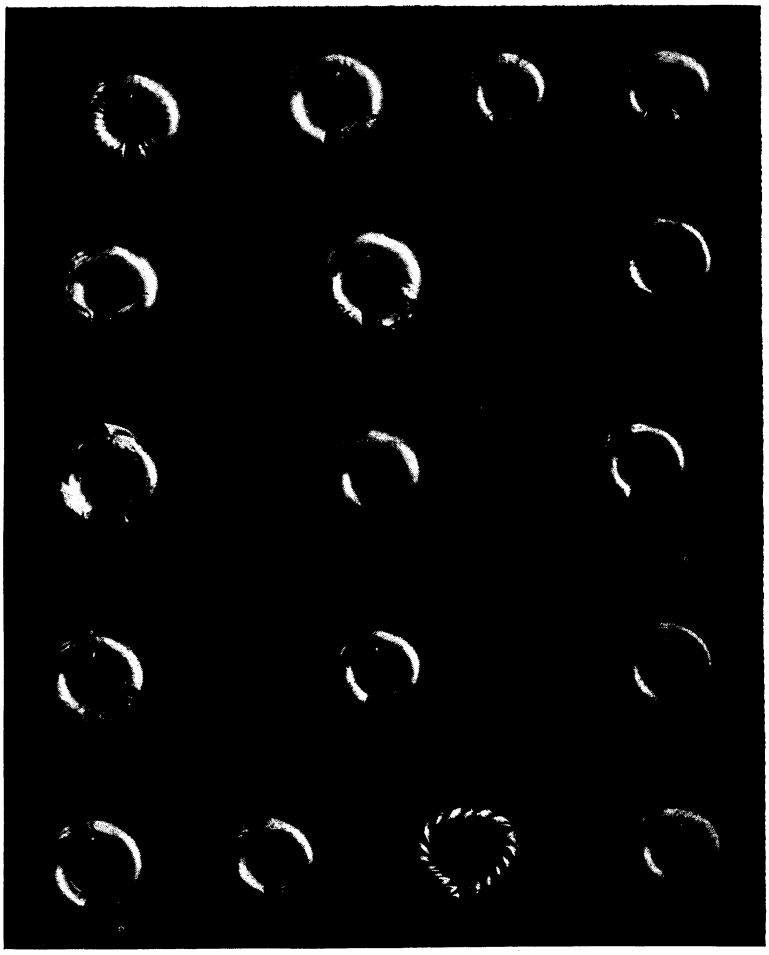
Many attempts have been made to equate the weights of a series of these rings with some known standard; and in his valuable work "The Origin of Currency and Weight Standards," Professor Ridgeway devotes several pages of his Appendix C to a discussion of the subject, and gives a table of the weights arrived at by grouping the rings in multiples of 18.

While there can be no reasonable doubt that these objects were used as a medium of exchange, we are not inclined, in the absence of literary evidence, to go any further into the question of what standard they may represent. Some of these rings are evidently forgeries of ancient times, as they are composed of bronze rings covered with a thin plate of gold. The rings as a rule are plain; but some are ornamented with small strips of darker metal let into the gold, and two examples are twisted like small torcs.

---

* Archæologia, lxi, p. 153.

† See Munro, "Pre-historic Japan," p. 435, fig. 276.



Gold Ring-Money.

To face p. 70.

CHAPTER VII

LEAF-SHAPED SWORDS

A NUMBER of leaf-shaped bronze swords have been found in Ireland. They may be roughly divided into two types, those with notches just below the blade and above the handle, and those that are plain. The latter are the earlier, and belong to the late Bronze Age; the former correspond to the Continental swords of the Hallstatt period. The leaf-shaped type was the typical Bronze-Age sword of western and northern Europe. It was developed from the dagger, and, like it, was a thrusting rather than a cutting weapon. The handle is cast in one piece with the blade, and has rivet-holes, and in some cases a slit for the attachment of the hilt, which was no doubt formed of bone or horn plates. The pommel was probably globular, and formed of lead or some heavy material. A bronze sword of this type was found in a house on the Akropolis at Mycenæ by Schliemann, and it can be dated at about 1200 B.C.* The discovery of this sword may be explained either as the result of a raid, or as showing that invaders from the north had reached Greece as early as this date. A leaf-shaped sword has been noticed on one of the clay tablets dated as late Minoan II, and in one of the stone slabs from over the fifth shaft grave at Mycenæ, which represents a figure in a chariot attacking a man on foot, the latter is armed with a leaf-shaped sword.† In any case it gives us a date for the period when these swords were in common use in western Europe. The type with notches below the blade has a tendency to become straighter at the sides, and to lose its leaf-shaped form. The use of the notches is not apparent, but

* Naue, "Die Vorrömischen Schwerter," pp. 12 and 20.

† See Burrowes, "Discoveries in Crete," p. 183.

it has been thought that the scabbards at that time were made of wood and were liable to shrink from exposure to weather, and that this may have prevented the sword from being thrust home, so that the edge was cut off by the notches slightly below the handle to avoid cutting the hand. The handle end of this latter type very frequently assumes a form like a fish's tail. These swords develop into the iron swords of the Hallstatt period, of which so far only one Irish example has been found. A bronze sword of the notched type formed part of the Dowris hoard, and is figured in the "British Museum Bronze-Age Guide," plate ii. Two remarkably fine specimens of this type were found in 1912 with a socketed spear-head at Tempo, County Fermanagh.

No moulds for casting leaf-shaped swords of either type have been found in Ireland; and it is therefore probable that at the time they were in use sand-casting had replaced casting from stone moulds. The scabbards of the leaf-shaped swords were made of wood or leather, protected by a ferule or chape of bronze, which was fastened to it by rivets; the point of the weapon does not seem to have reached the end of the sheath. There are several examples of bronze chapes in the Royal Irish Academy's collection, and they display a considerable variety of design. Some are long and tubular in shape (fig. 66), while others are of the

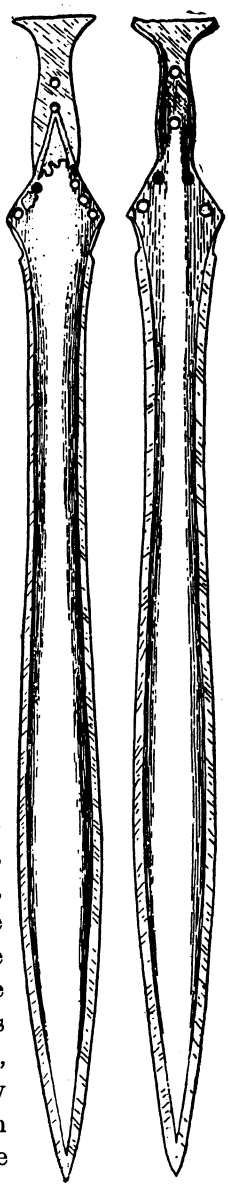


Fig. 65.—Leaf-shaped bronze swords, found with a spear-head at Tempo, Co. Fermanagh (¼).

winged or boat-shaped type which is found on the Continent (fig. 67). Others again are of a small and simple type. The

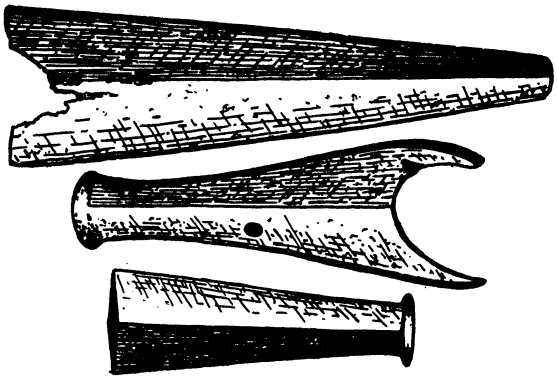


Fig. 66.—Bronze chapes (½).

rivet-holes for the attachment of the sheaths can be seen in nearly all the Irish specimens. The casting of these objects

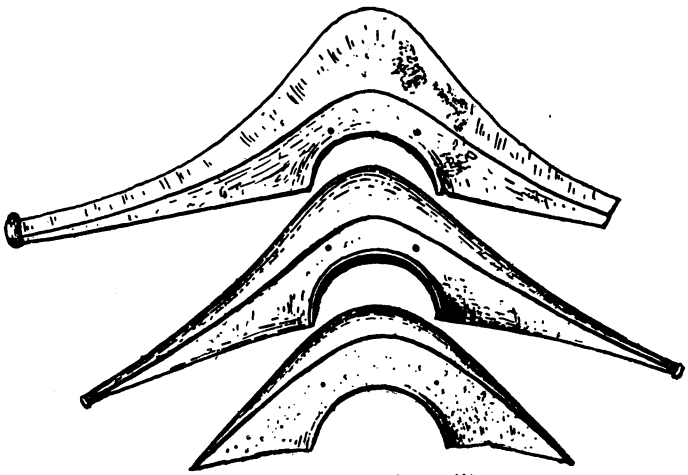


Fig. 67.—Winged chapes (½).

shows a good deal of skill, as the metal is very thin. The winged variety are probably the latest, as they have been found with iron swords of Hallstatt type on the Continent.

SHIELDS

Two circular shields or bucklers of bronze have been found

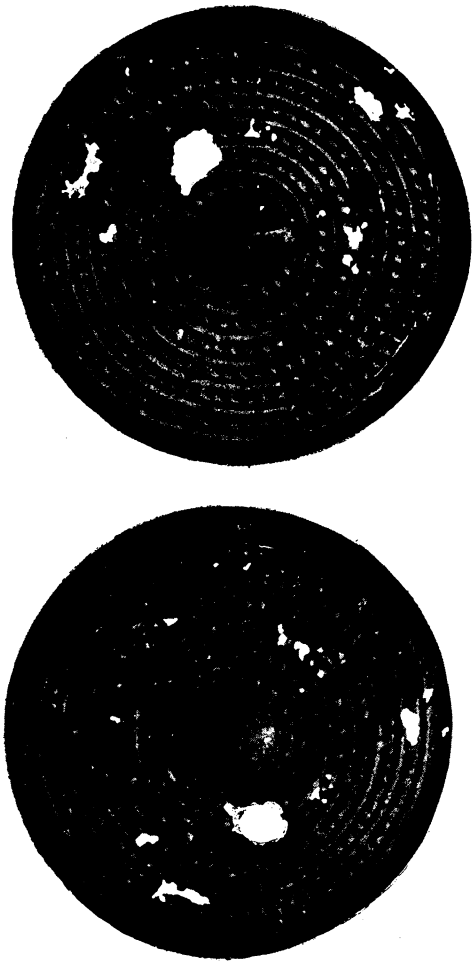


Fig. 68.—Bronze shield, found at Lough Gur, Co. Limerick.

in Ireland. There is only one in the National Collection, the

fine shield discovered at Lough Gur, County Limerick. There is, however, a small shield of bronze ornamented with large bosses in the British Museum which was found at Athenry, County Galway.* These bronze shields have never been found in the British Islands with any objects which would give any definite clue to their date; but they are generally referred to the late Bronze Age. They belong to a common type, being decorated with numerous bands of small bosses separated by concentric circles. They appear to have been hammered out.

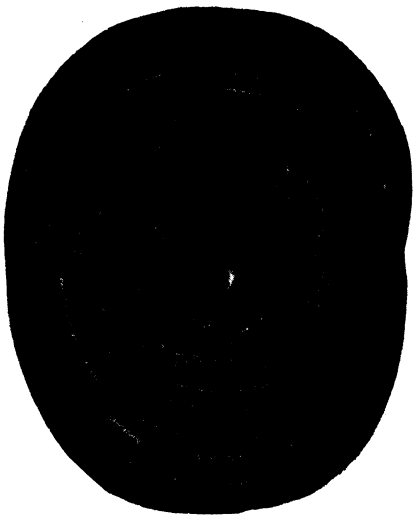


Fig. 69.—Alder-wood shield, found in Co. Leitrim.

There are two other shields of great interest in the National Collection. One is the remarkable alder-wood shield found 10 feet deep in a bog in 1863 at Annadale, County Leitrim. This shield is oval in shape, and has a central boss and seven raised ribs. It will be noticed that the ribs show an indentation at one side; but too much emphasis must not be

* "British Museum Bronze-Age Guide," p. 30.

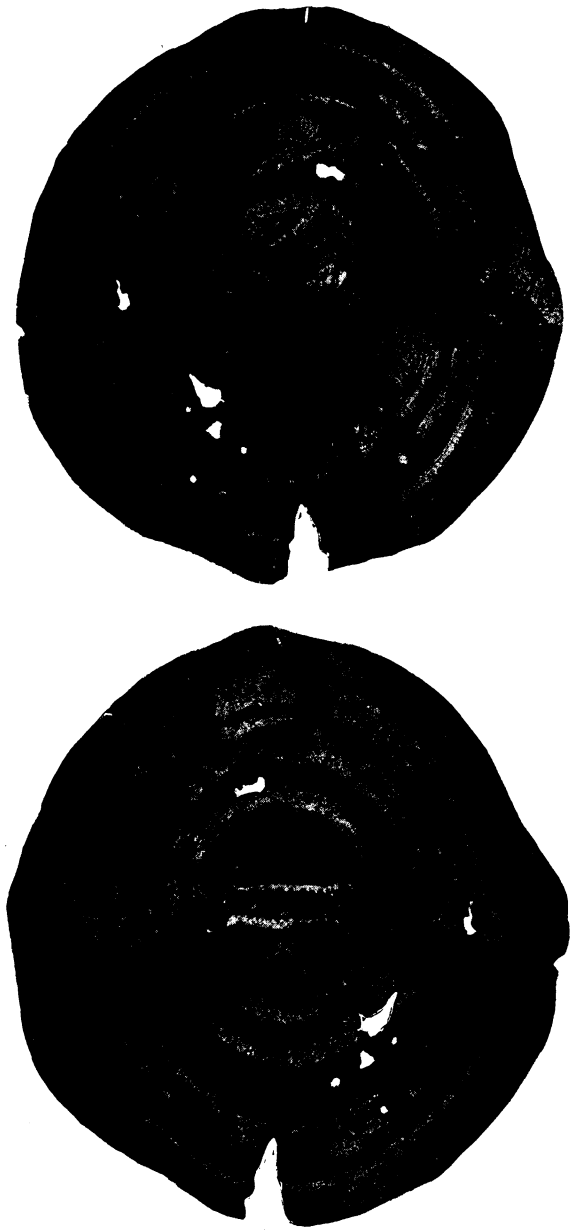


Fig. 70.—Front and back of leather shield, found at Clonbrin, Co. Longford.

placed on this, as the shield shrank a good deal after its removal from the bog, and the alteration may be due to this. This shield has a handle at the back. It is interesting to note that 'sciath,' one of the Irish words for 'shield,' denotes 'alder.' The next is the leather shield found in 1908 at Clonbrin, County Longford, and presented to the Royal Irish Academy's collection by Colonel W. H. King-Harman. This truly remarkable shield, the only one of its kind in Europe, is made of a solid piece of leather nearly $\frac{1}{4}$ of an inch thick, and measures $20\frac{1}{2}$ inches in length by $19\frac{1}{2}$ inches across. It has an oblong centre boss pressed out of the leather and covered with an ornamental cap of fine leather laced on to it. The boss is encircled by three ribs, the inner one being gapped, and the two others having a curious re-entrant angle. The shield has twenty-four small round bosses on it which resemble those on the bronze shields. There is a leather handle which was laced on to the back. This shield appears to be complete as it stands, as there is no sign of any wooden supports at the back, nor is it easy to see how such supports could have been attached to it. According to Polybius round shields of bulls' hide were used by the Roman equites in the early days of Roman history.

The round shield of the late Bronze Age was succeeded by the oval shield which may be taken as partly transitional to the oblong shield of Southern Europe and also of the late Celtic type found in Britain. The date, therefore, of this Irish leather shield is probably to be placed in the Early Iron period.

CHAPTER VIII

TORCS

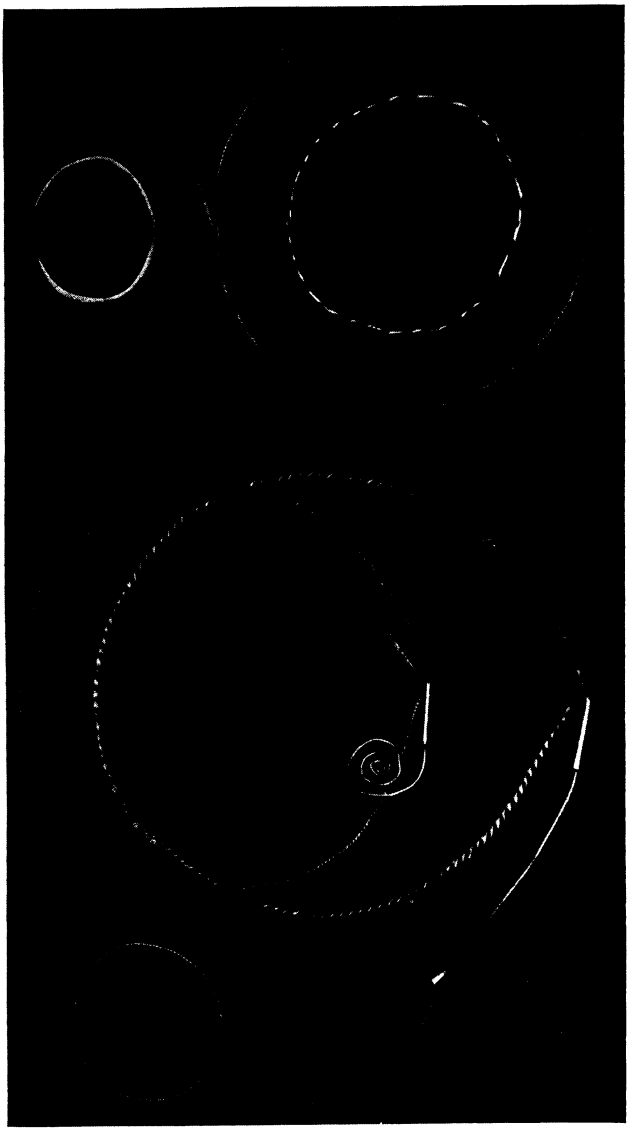
THERE are twenty-four golden torcs of various types in the National Collection and one of bronze; but the Irish provenance of the latter is doubtful.

The best known are the two magnificent gold torcs found in the side of one of the raths at Tara, and these belong to a type that has been found in England and France, of which the best known examples are those found at Yeovil, Somerset,* and Grunty Fen, Cambridge.† A torc of this type was also found by Schliemann in the royal treasury in the second city of Troy. This find has led to a good deal of speculative opinions varying as to whether the model of the torc was imported into Ireland from the south, or whether the Irish gold could have reached the Mediterranean in pre-Mycenæan times.‡ Torcs of this type were made by folding two thin ribbons of gold along the middle at a right angle; they were then attached with some kind of resinous flux, apex to apex, and twisted together. In some cases, instead of two folded ribbons a flat one and two halves of another were used, after being fastened together, the twisting being done in the same way. In some of the Irish examples the body of the torc is plain, or was grooved to simulate the appearance of the twisted torc. A peculiar feature of these torcs is the large hooks with which they are provided. It must be noted that whereas twisted torcs of bronze are fairly common in England and France there is only one bronze torc in the Irish National Collection, and, as mentioned above, the provenance of this is doubtful. The

* Proceedings Somerset Archæological and Natural History Society, vol. lv, 1909, pt. ii, pp. 66–84.

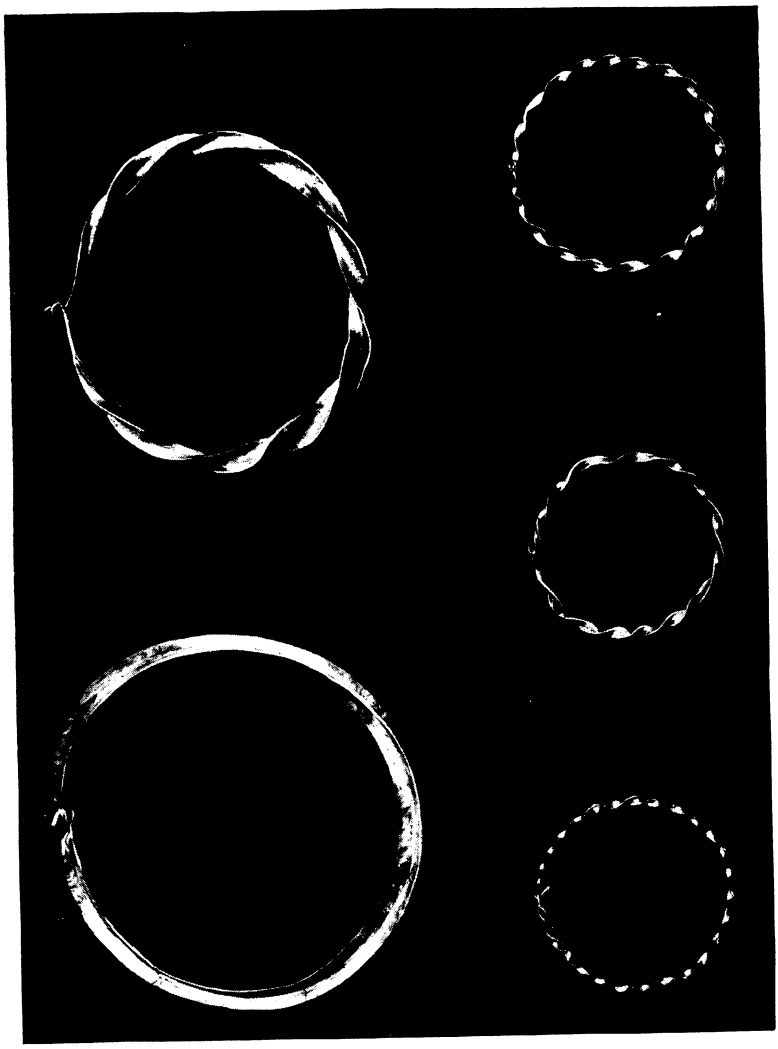
† Cambridge Antiquarian Society's Communications, vol. xii, p. 96.

‡ Déchelette, "Manuel d'Archéologie," vol. ii, p. 355, note.



Gold Torcs from Tara and elsewhere.

To face p. 78.



Gold Torcs.

To face p. 78

dating of these twisted torcs is a matter of difficulty, as there are only two instances of their having been found in association with bronze objects, one in the case of the Grunty Fen torc which was discovered with three bronze palstaves, and another found at Fresné la Mère, near Falaise, Normandy, which was found with a bronze razor and other objects of bronze. Such evidence as exists, therefore, would place them in the late Bronze Age, probably somewhere about 1000 B.C., but certain varieties of torcs, as we shall see, continued in use as late as the first century. The area of distribution of gold torcs of the Tara type in Ireland, England and France is very limited, none having been found in Italy, Switzerland, Germany, Belgium, Holland, or Spain and Portugal.* It has been suggested that the gold of which all these torcs were composed came from the Wicklow Mountains,† and in view of the extreme wealth of Ireland in gold, as evinced by the number of gold ornaments which are still constantly found, this may be considered probable.

Among the other types of gold torcs are two splendid examples, one of which appears to have been prepared for twisting and left unfinished, while the other is in a complete state (Plate VIII).

Small torcs made by twisting a plain ribbon are fairly common, and some of these are so small that they must have been used as bracelets.

In later times the torc was the distinguishing ornament of the Celt, and there are many allusions to torcs in classical writers. In 223 B.C., when Flaminius Nepos gained his victory over the Gauls on the Addua, it is related that instead of the Gauls dedicating, as they had intended, a torc made from the Roman spoils to their god of war, the Romans erected a Roman trophy to Jupiter made from Gaulish torcs.

The name of the Torquati, a family of the Manlia Gens, was derived from their ancestor, T. Manlius, who, having slain a

* Congrès Archéologique Français, Beauvais, 1905, p. 294.

† Proc. Soc. Antiquaries of London, second series, vol. xxiv, p. 42.

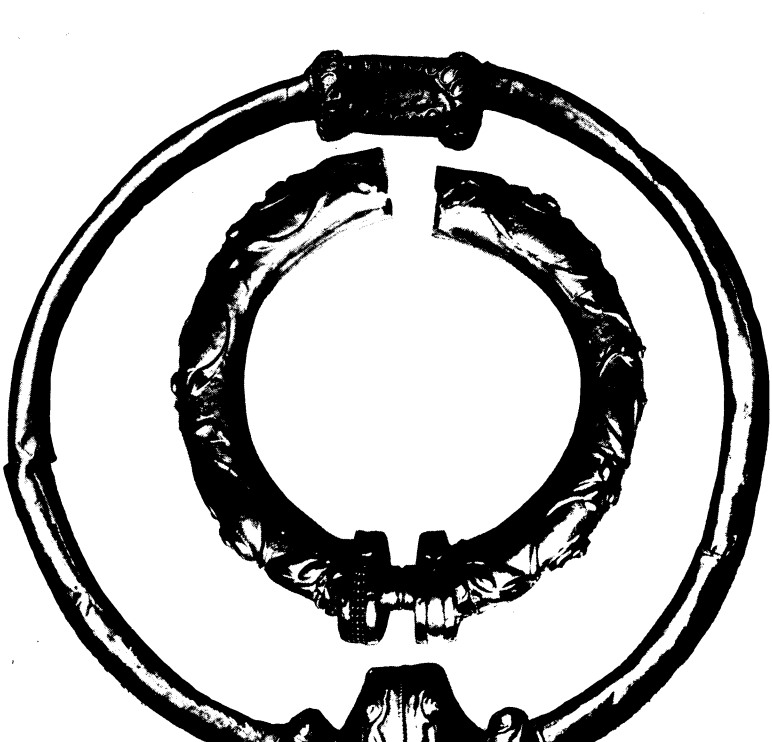
gigantic Gaul in B.C. 361, took the torc from the dead body, and placed it round his neck.

The famous statue of the Dying Gaul preserved in the Capitol at Rome shows a torc on the warrior's neck. This is one of a series of statues set up by the Greeks of Pergamos to celebrate their struggle with, and first victory over, the Gauls of Asia Minor, with whom they came in contact from about 240 to 160 B.C. The twisted torc appears to have been replaced in Ireland about the second century B.C. by the plain torc, which was probably introduced from Gaul. The fine gold torc from Clonmacnois (Plate IX), with La Tène decoration, is a good example of these torcs, and is almost identical with one from the Marne district now preserved in the St. Germain Museum. Probably the finest La Tène torc in existence is that found in the celebrated Broighter find, which is richly decorated with La Tène ornament (Plate IX, the inner torc).

CHAPTER IX

BRONZE-AGE FINDS

ONE of the greatest difficulties to be contended with in any attempt to arrive at a working chronology for the Prehistoric Period in Ireland is that, though Ireland had a rich Bronze Age, as attested by the magnificent collection of objects preserved in the National Collection, yet in very few cases have any of these objects been found in association. Excavation carried on under scientific supervision was practically unknown in Ireland until quite recent years, and though, no doubt, hoards of associated objects have been discovered in the country, yet trustworthy particulars as to their finding have hardly ever been preserved, and the objects themselves have generally been scattered. Under these circumstances it seemed useful to gather together in the present chapter an



Gold Torcs from Clonmacnois and Broighter.

To face p. 80.

account of the finds—unfortunately very few—in which associated objects have been discovered, and of which there is indisputable evidence of their association:—

1. Find of a socketed celt, a gouge, a pin, a razor (the last in a simple leather case), a portion of a woollen garment, an ornament of horsehair, like a tassel, and some pieces of wood. These objects were found in a bog in the townland of Cromaghs, parish of Armoy, Co. Antrim, in May, 1904, when cutting turf* (Fig. 71, nos. 1–5).

2. A find of late Bronze-Age objects discovered in a bog in the townland of Lahardoun, Tulla, Co. Clare, in May, 1861. The find contained the following objects:—two small socketed celts, a disk-headed pin, a plain bronze ring, and a bronze fibula† (Fig. 71, nos. 6–10).

3. Find at Mountrivers, Rylane, Coachford, Co. Cork. This find was made in May, 1907, and contained the following objects:—two socketed bronze celts, two gold fibulæ, one fibula of copper or bronze, and eleven amber beads‡ (fig. 62).

4. Find at Kilfeakle, Co. Tipperary, made in May, 1906, The find consisted of a bronze socketed celt, a socketed sickle, two chisels, and a gouge§ (fig. 74).

5. Find of moulds for casting primitive spear-heads. This find was made near Omagh, Co. Tyrone, about 1882, and consisted of seven blocks of sandstone for casting tanged and socketed spear-heads.‖ (See page 39.)

6. Find of moulds made in December, 1910, at Killymeddy, Ballymoney, Co. Antrim. The find contained two complete moulds for casting looped socketed spear-heads, and half a mould for a looped socketed spear-head, a mould for one side of a long dagger-blade, a large mould for casting one side of a leaf-shaped

* Proc. Royal Irish Academy, vol. xxvi, Sec. C, p. 119.
† Proc. Royal Irish Academy, vol. xxvi, Sec. C, 124.
‡ Proc. Royal Irish Academy, vol. xxx, Sec. C, p. 85.
§ Journal of the Royal Society of Antiquaries of Ireland, vol. xxxvii, p. 86.
‖ Journal of the Royal Society of Antiquaries of Ireland, vol. xxxvii, p. 181.

knife, two halves of a mould for casting a sickle, eight fragments of moulds, two sharpening stones, and a stone for hammering or smoothing objects.* (See page 40.)

7. Find made at Tempo, Co. Fermanagh. This find was made in 1912, and consisted of two leaf-shaped bronze swords with notches below the blades, and a very fine socketed spear-head† (figs. 65 and 37).

8. Two leaf-shaped spear-heads found together at the Ford, Belturbet, Co. Cavan‡ (fig. 30).

9. Large hoard found at Dowris, King's Co., about 1825. A small portion of this hoard, consisting of two bronze trumpets, seven crotals, five socketed spear-heads, and a socketed gouge, are preserved in the Royal Irish Academy's collection in the National Museum. There are other portions of this hoard in the British Museum and at Birr Castle.§

10. Bronze socketed celt, large bronze ring, two smaller rings with lateral-shaped trumpet projections, and a small flat ring all found together near Glenstal, Co. Limerick, about 1901.

11. Large find of objects, formerly in St. Columba's College Collection, all stated to have been found together, in 1830, in a bog at Derryhall, County Antrim. The find comprises fourteen disk-headed bronze pins of late Bronze-Age type, and two bronze pins, with cup-shaped heads, a bronze dagger and two bronze knives (one of the latter being socketed), a socketed celt, nine bronze rings, a bronze ring with side perforations and a double ring, a bronze fibula with three beads; also two late brooches, and two late pins, which are said to have proved part of this find, but whose association with the remaining objects is very doubtful.

12. Bronze fibula, and twenty-two bronze rings, found

* Proc. Royal Irish Academy, vol. xxx, Sec. C, p. 83.

† Proc. Royal Irish Academy, vol. xxx, Sec. C, p. 91.

‡ Proc. Royal Irish Academy. vol. xxx, Sec. C, p. 93.

§ "British Museum Bronze-Age Guide," p. 28.

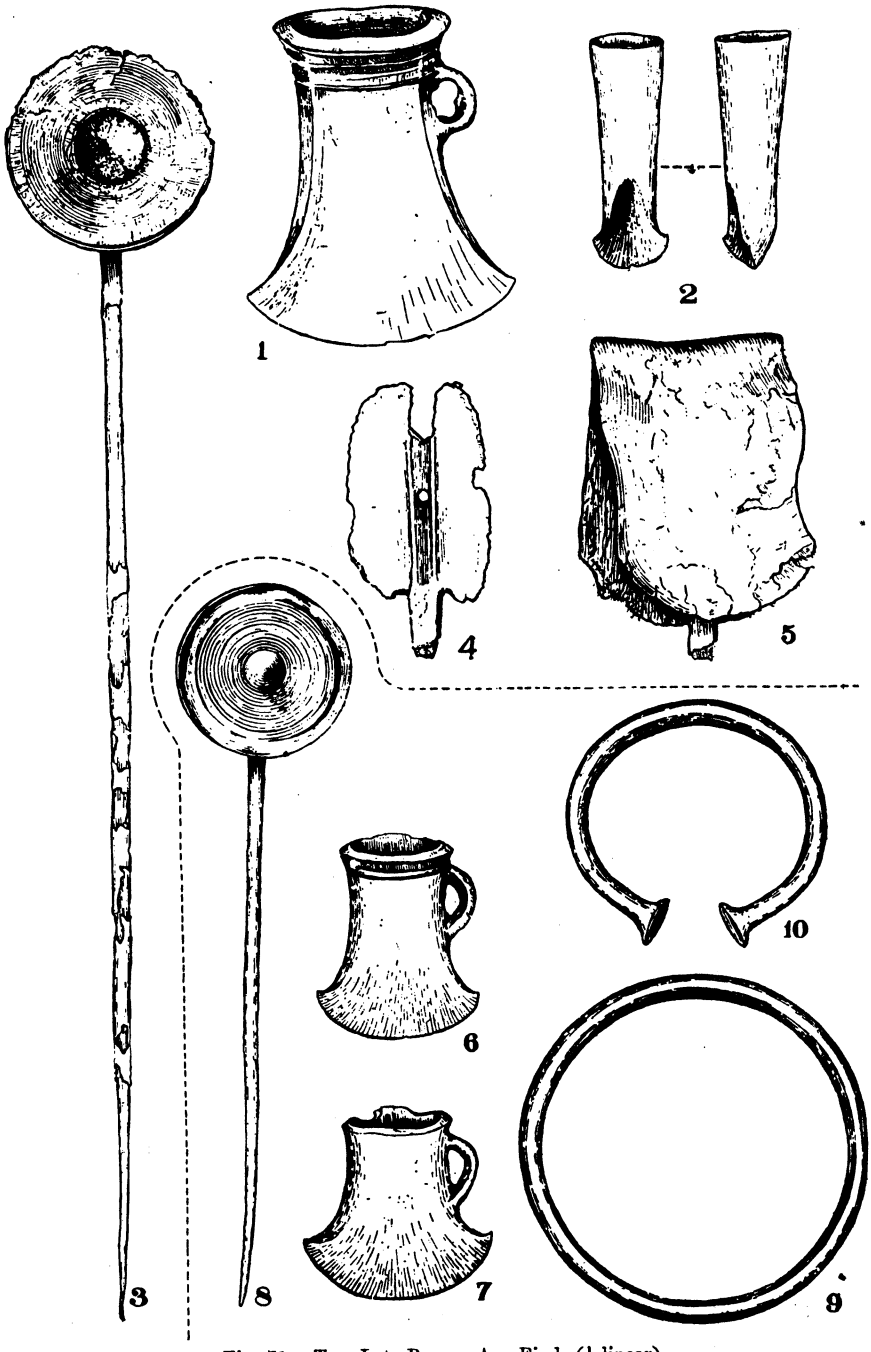


Fig. 71.—Two Late Bronze-Age Finds (½ linear).

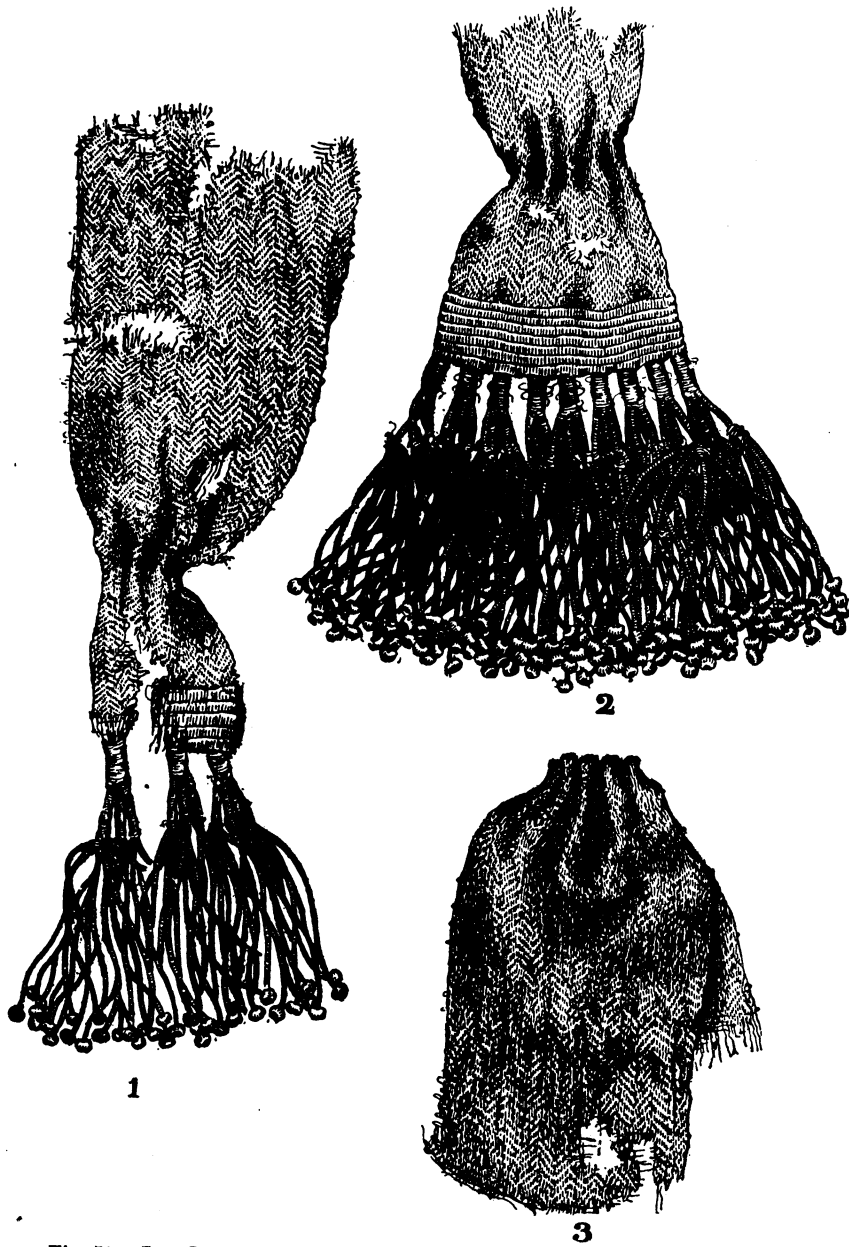


Fig. 72.—Late Bronze-Age horse-hair Fabrics from Armoy, Co. Antrim ($\frac{3}{4}$ linear).

together, about 1876, at Broca, Rochford Bridge, County Westmeath.

13. Socketed bronze celt, bronze fibula, bronze ring, and disk-headed Bronze-Age pin. All found together at Lapoudin, Tulla, County Clare.

14. Three large, seventeen small, eight double bronze rings, and one fragment, probably all found together.

15. Bronze fibula, bronze gouge, and three rings, found together, but locality unrecorded.

16. Six copper celts found together at Cappeen, County Cork.

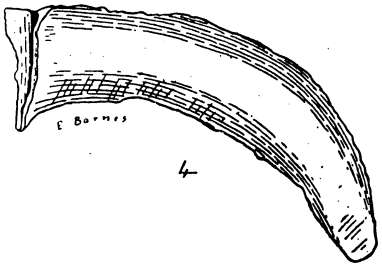


Fig. 73.—Bronze Implements, Co. Tipperary (½ linear).

17. Seven halberds found together at Hillswood, County Galway.*

18. Two bronze rings, a small leaf-shaped spear-head, a socketed celt, and a small gold bulla, said to have been found together in Kinnegoe bog, County Armagh, in 1840. St. Columba's College Collection.

19. Three bronze trumpets, one in two parts, found in a bog in the barony of Moyarta, County Clare.

20. Six bronze trumpets, one in two parts, found in a bog close to Chute Hall, in the townland of Clogher, Clemin, three miles from Tralee, County Kerry.

---

* Proc. Royal Irish Academy, vol. xxvii, Sec. C, p. 97.

21. Two trumpets, one in two parts, probably found together in a bog at Carrick O'Gunnell, County Limerick. (These are

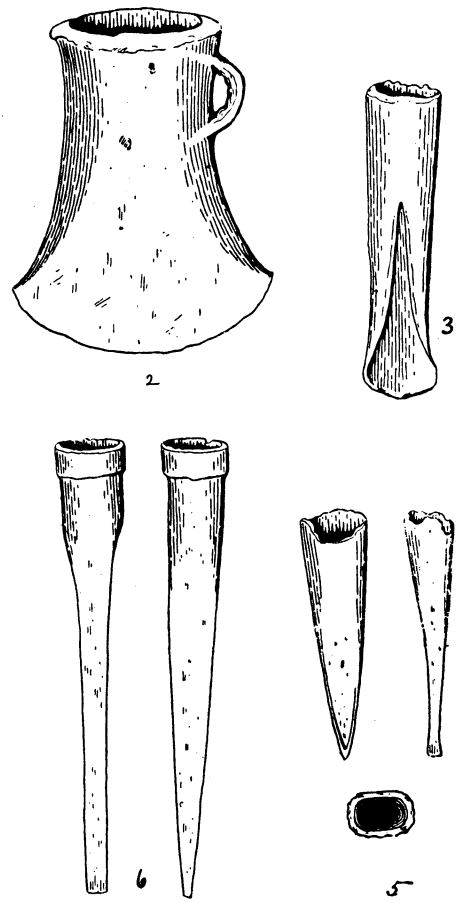


Fig. 74.—Bronze Implements found at Kilfeakle, Co. Tipperary (½).

probably two of those described by Mr. R. Ousley, in the Trans. R.I.A., 1788.)

22. Three trumpets found at Carraconway, near Cloughouter Castle, County Cavan.*

23. Two trumpets found at Macroom, County Cork.

24. Four trumpets found in the bog of Drumabest, Kilraughts, Country Antrim, in 1840.†

25. Two trumpets found in County Cork. (Londesborough collection.)

26. Two trumpets and a part of a third found together, but locality unknown.

27. Two trumpets probably found together, from Trinity College, Dublin, collection.

28. A socketed bronze celt and gold ring-money found together near Belfast.‡

29. Four gold lunulæ, found together at Dunfierth, Carbury, County Kildare.§

30. A large spear-head, a round bronze shield, with a central boss for the hand, and two circles of smaller bosses, found in a mound or rath, at Athenry, County Galway.‖

With the exception of Nos. 4, 5, 27, and 30, the above-mentioned finds are preserved in the Royal Irish Academy's collection, in the National Museum, Dublin.

---

* Wilde's Catalogue of the Royal Irish Academy's Collection, p. 626.

† *Ibid.*

‡ Archæologia, vol. lxi, p. 153.

§ "Wilde's Catalogue of Gold Antiquities," p. 18.

‖ Horae Ferales. pl. xi, fig. 1.

CHAPTER X

Bronze Trumpets

Numerous trumpets of cast bronze have been found in Ireland, both in the south and the north. They are rare in Britain. Two or more trumpets have often been found together; eight were found at Dungannon, County Tyrone, in 1713, and thirteen or fourteen near Cork in 1750. The Irish trumpets may be divided into three types—(1) in the shape of a horn, open at both ends, having the mouth-piece and trumpet cast in one piece; (2) of similar shape, but closed at the narrow end, with an aperture for the mouth at the side near the closed end; (3) also horn-shaped, but with a long straight tube attached to the narrow end of the carved portion, the upper end of the tube having four rivet-holes, to which another tube or mouth-piece may have been fixed. There are references in classical authorities to the trumpets used by the Celts. Polybius, describing the defeat of the Celts by the Romans at the battle of Telemon, B.C. 225, speaks of the innumerable horns and trumpets of the Celts (Gaesatæ, Insubres, Taurisci, and Boii).

Dr. F. Behn, of the Mainz Museum, has recently written an account of the music in the Roman army, in which he has brought together much information about the early bronze trumpets; and he includes a short description of the Irish type.* The Irish trumpets, which are furnished with the straight tubular piece, much resemble the Roman lituus; and, as a whole, the Irish type is very closely allied to the lituus and carnyx, the difference between the lituus and carnyx being that the expanded end of the carnyx takes the form of some fantastic animal's head. Trumpets have been found in the Dowris hoard, with socketed spear-heads, and other objects of the late Bronze Age, and they must be dated to

* Die Musik im römischen Heere "Mainzer Zeitschrift," 1912, p. 36.

Bronze Trumpets.

To face p. 88.

that period; on this account the Etruscan lituus can hardly have been derived from Irish trumpets; so that it is

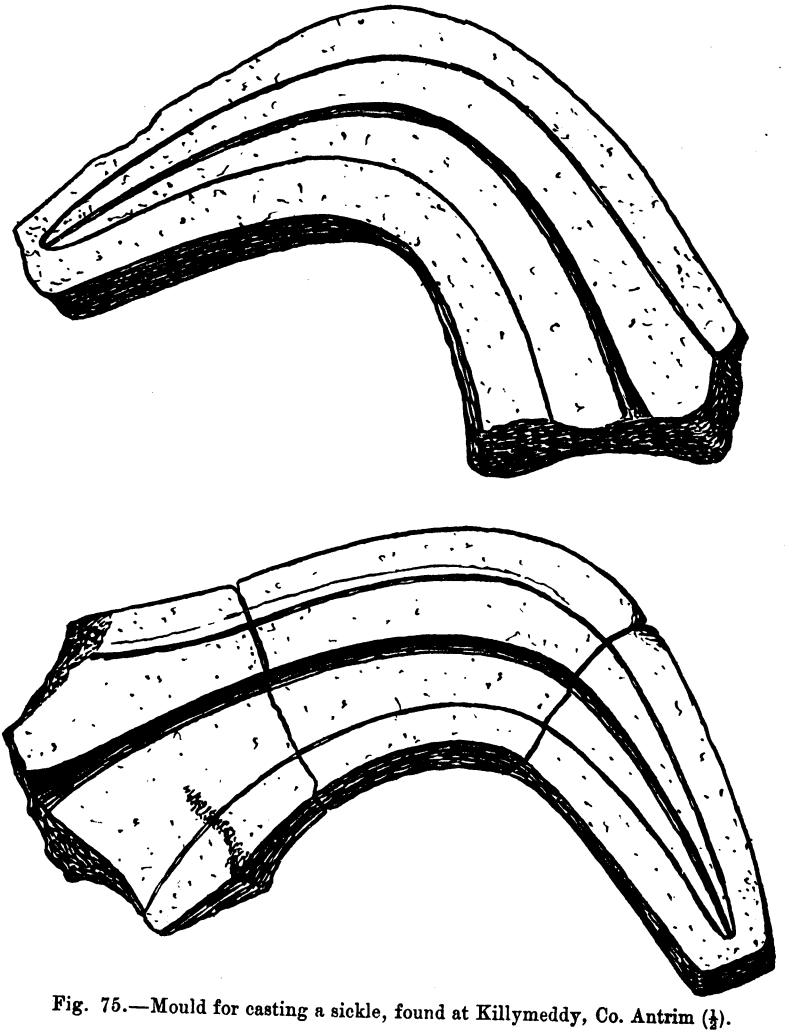


Fig. 75.—Mould for casting a sickle, found at Killymeddy, Co. Antrim ($\frac{1}{2}$).

probable that the Irish trumpets, like those of Gaul, were derived from the south.

Sickles

Socketed bronze sickles have been found fairly frequently in different parts of Ireland. Those in the National Collection have generally been referred to the late Bronze Age. These sickles are all very small, and it has been thought that

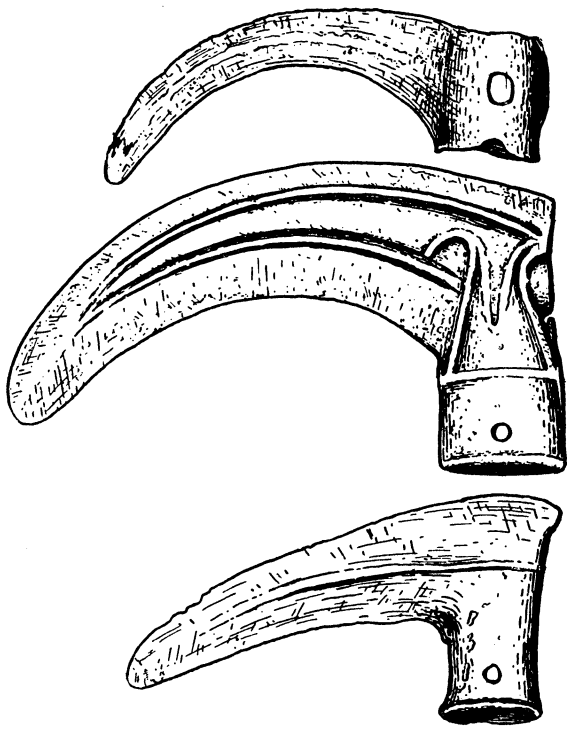


Fig. 76.—Bronze sickles (½).

the Irish, like the Gauls, cut only the ear of the corn, and burnt the stalk. A recent find of moulds in County Antrim contained a mould for casting a sickle without a socket like the Continental examples, and shows that this type was also

known in Ireland in the later Bronze Age (fig. 75). The bronze sickles have an important bearing on the question of agriculture in Ireland. An opinion has recently been expressed that corn was not introduced into England until the Roman invasion, and was introduced into Ireland even later than this.* However, there are instances of ears of corn being found within the walls of

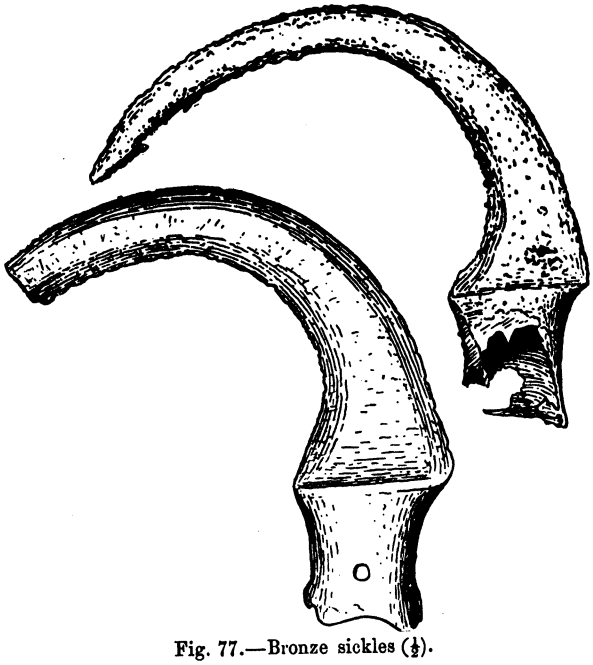


Fig. 77.—Bronze sickles (½).

food-vessels of early Bronze Age date in Scotland; and it is probable that corn was also grown in Ireland during the Bronze Age. There is evidence that the ox was domesticated during this period. The excellence of the metal-casting and the high degree of skill shown in casting implements and weapons during the Bronze Age lead us to believe that the civilization, and with the civilization the art of agriculture and material comfort, had reached a fairly high level.

* Proc. Roya Irish Academy, vol. xxxi (Clare Island Survey, Part 6).

Disk-Headed Pins

In the late period of the Irish Bronze Age, bronze pins with disk-shaped heads having a conical projection in the centre are fairly common. The disk-heads in many instances are ornamented with concentric circles and other simple kinds of

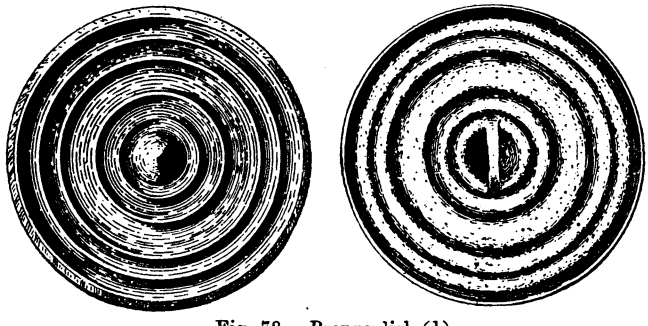


Fig. 78.—Bronze disk ($\frac{1}{3}$)

decoration. They are bent at right angles to the pin, though in some cases the pin comes straight from the head. The pins are very long, some measuring as much as 12 inches. In the very interesting find at Armoy, County Antrim (p. 81), it will be remembered that one of these pins was found together with

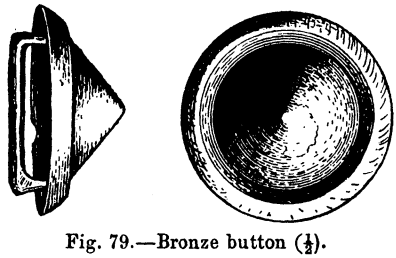


Fig. 79.—Bronze button ($\frac{1}{2}$).

a woollen garment, and there is no doubt they were used to fasten the dress. The fact of a razor being one of the objects of this find indicates that the pins were used by men, though no doubt they may also have been worn by women. The use of such long pins seems to point to the wearing of some kind of

cloak-like garment probably fastened in the front; and the ornamental heads of the pins indicate that they were worn in a conspicuous place.

As well as the pins a few bronze buttons have been found consisting of disks with the same conical projection, but having the pin replaced by a small bar at the back. One remarkable example in the National Collection measures $4\frac{3}{4}$ inches in diameter (fig. 78). This object was probably either attached to a leathern belt or possibly may have been portion of a horse's furniture. The smaller buttons have been found on the Continent, and are fairly numerous in the Continental lake-dwellings or finds of the late Bronze Age.

One is tempted to see in the Irish examples a derivation of the button from the pin.

CHAPTER XI

Bronze-Age Pottery

In Ireland the pottery of the Bronze Age is principally

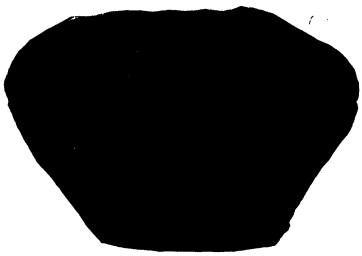


Fig. 80.—Incense cup.

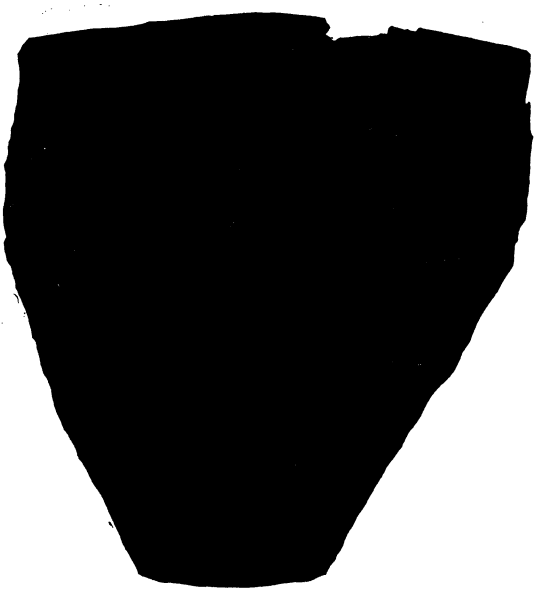


Fig. 81.—Cinerary urn.

represented by the type of vessel known as a food-vessel. We

may commence with these, as there has only been one undoubted find of beakers made: this consisted of the remains of three vessels found together at Moytura, County Sligo, and preserved in the National Collection. A beaker is stated to have been found at Mount Stewart, County Cavan; but the vessel is not extant, and the evidence as to its discovery is not perfectly satisfactory. The Irish food-vessel is derived directly from the round-bottomed

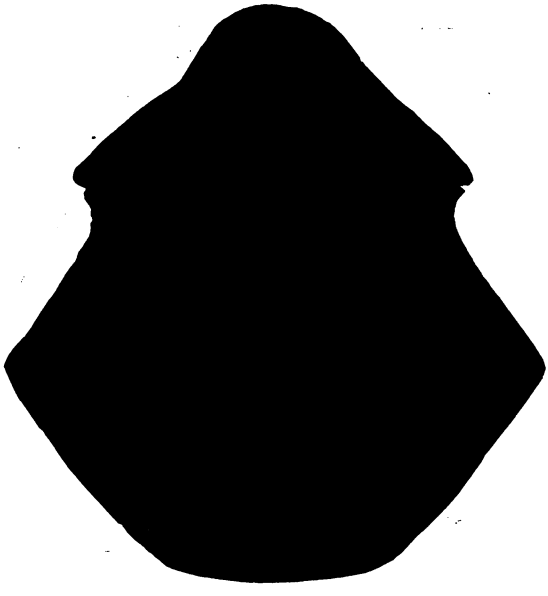


Fig. 82.—Food-vessel with cover, Danesfort, Co. Kilkenny.

vessel of Neolithic times. Some of these round-bottomed bowls have been found with Neolithic remains at Portstewart, County Down, and there is one in the National Collection described as found in a cavern associated with stone implements beside the moat of Dunagore, near the town of Antrim. The development from the Neolithic bowl can be clearly traced in the Irish series. The earliest are flat, almost saucer-shaped bowls, which

are generally covered all over with ornament, and often have a cruciform pattern on the base which has been thought to indicate that the vessels were turned mouth downwards when not in use.*

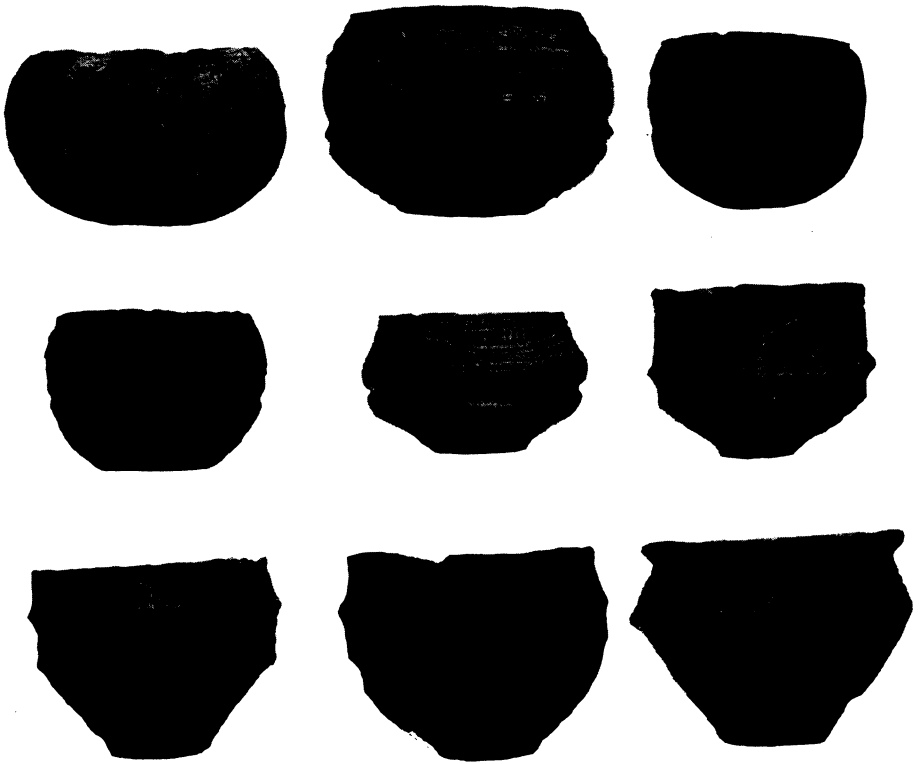
These bowls have a very pleasing effect; and, as Dr. Abercromby says: "The small native women, sometimes under five feet high, who made these little vessels, had certainly a fine

Fig. 83.—Cinerary urn, Carballybeg, Co. Waterford.

sense of form and a delicate perception of the beauty of curved forms. The care and precision with which the ornament was effected, and the richness of the effect produced by simple means, may excite our admiration."†

In the next stage a slight indentation about the centre of

* Abercromby, "Bronze-Age Pottery," vol. i, p. 121.
† Abercromby, *op. cit.*, p. 121.



Food-vessels in the order of their development.

To face p. 96.

the vessel can be noticed, the ornament being arranged on either side above and below this; next two small ridges develop out of this, which are at first close together, but are afterwards placed further apart, and in the later stages the vessel becomes

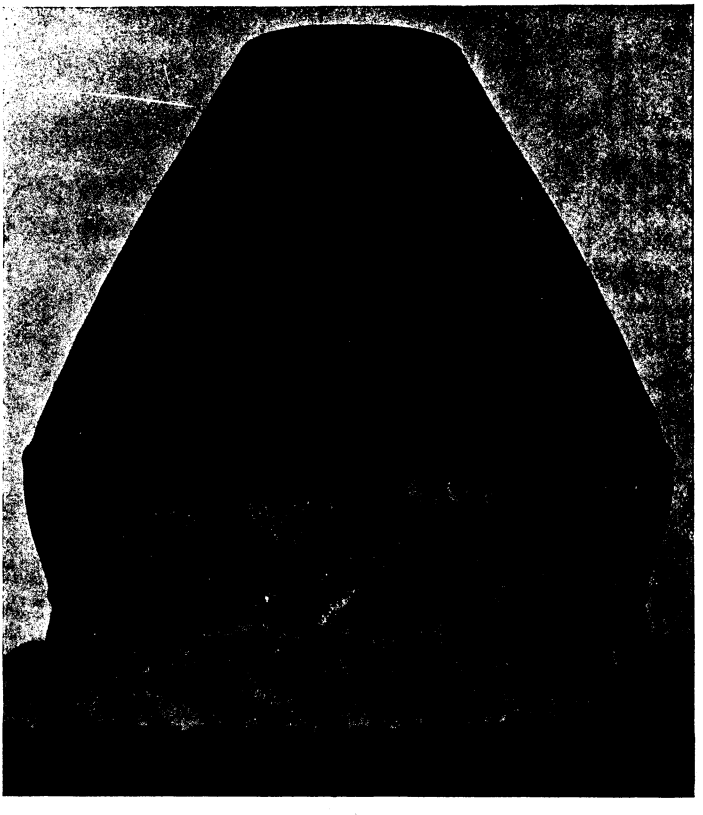


Fig. 84.—Model of cinerary urn, showing its position in cist over burnt bones and small vessel, Greenhills, Co. Dublin.

considerably higher, the base assuming the form of a cone, and the upper portion having an everted lip. Some of these latter vessels have a number of small ribs encircling them. Plate XI shows a series of food-vessels placed in the order of

their evolution. The decoration can be well seen. It consists for the most part of chevron, herring-bone, and other linear ornament, but wavy lines can be seen in some examples. In some rare cases the food-vessels were provided with lids

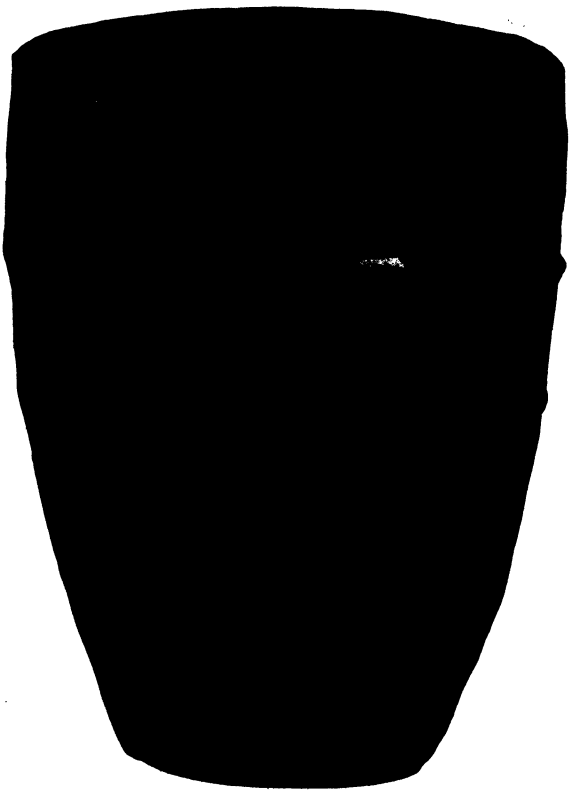


Fig. 85.—Cinerary urn, Coopstown, Co. Tyrone.

(fig. 82). All of these vessels were made by hand; and though the baking of the pottery varies, it was evidently done over a fire.*

The food-vessels, which are found both with unburnt and burnt interments, continued in use during the greater part of

the Bronze Age, and the name food-vessel is hardly appropriate in Ireland, as in many cases these vessels have been found containing cremated bones, having apparently served the purpose of cinerary urns.

The so-called cinerary urns are large vessels which have been usually discovered containing human bones; they have often been found inverted over cremated remains. They can be conveniently divided into several types, of which the type with the overhanging rim may be mentioned first. In this type the vessel consists of two portions, a lower flower-pot-like cone, on which is placed a larger truncated cone, which forms the overhanging rim. This type is widely distributed in England, and in Ireland has been found in the Counties of Antrim, Down, and Tyrone. The cordoned or hooped type is developed from the preceding type by replacing the overhanging rim by a moulding, both types being contemporary. In the encrusted type the urn, which is of the flower-pot shape, is decorated with strips of clay in the form of chevrons and bosses, the ornamentation assuming a rope-like form. Urns of this type have been found at Greenhills, Tallaght, County Dublin; Gortnain, Broomhedge, County Antrim; Tullyweggin, Cookstown, County Tyrone; Closkett, Drumgooland, and Glanville, Newry, County Down.

Very small vessels, of usually about 2 to 2½ inches in height, are often found in interments associated with the large cinerary urns, and occasionally, when the latter are inverted, are found inside them. The exact use of these small vessels, which are called "incense-cups" or "pygmy-cups," is a matter of speculation; several theories have been advanced to explain the purpose of placing them in graves, but none of them are altogether satisfactory.†

Like the other vessels, they can be divided into different types, of which some are peculiar to England, and even there

† See Abercromby, *op. cit.*, vol. ii, p. 24, who discusses these small vessels at length.

confined to certain counties. In Ireland several of these small cups have perforated walls, while some have handles. One remarkable specimen found at Knocknacoura, Co. Carlow, is covered all over with ornament.

In the fine cist discovered at Greenhills, County Dublin, and now set up in the National Museum, a very remarkable little cup was found inside the large inverted cinerary urn (fig. 84). The form of this small cup appears to be originally derived from a metal prototype, and exactly resembles pottery-vessels of Iron-Age date found in the cemetery at Marne.

CHAPTER XII

Bronze-age Ornamentation in Ireland

The ornament of the Bronze Age in Ireland consists of chevrons, hatched triangles, lozenges, etc., combined with some wavy patterns, and later in some instances with the spirals introduced from Scandinavia,* where this motive had penetrated early from the Ægean along the amber route. This early type of ornament can be seen on some of the bronze celts, and also on the pottery, notably the food-vessels, which are often most tastefully decorated. The ornamentation, however, can be most fully studied on the inscribed stones in the great monuments of the New Grange group. These monuments, perhaps the most remarkable in Western Europe, have justly aroused the interest of generations of archæologists, and many interpretations have been placed upon their decoration. Having dealt so fully with this subject in a recent book, "New Grange and other Incised Tumuli in Ireland," 1912, it is not proposed to go into the question again, but there are one or two points that may be noticed.

The most remarkable feature about the ornamentation at New Grange is the occurrence of the spiral motive; and it is the presence of this distinctive motive which has led to so much speculation.

It may be stated at once that the general view at present held by those who have studied the question is that the spiral was introduced, and that in the case of Ireland it was derived from Scandinavia.

The similarity between New Grange and the tholos tombs of the mainland of Greece is so striking that it is at least likely that the former may have been derived from the latter.

* See Hoernes, "Jahrbuch für Altertumskunde," Band vi, p. 163.

In examining the monument of New Grange, the author had been led by long study, and the comparison with motives common in the Ægean at about the same period, to explain the ornamentation, notably in the cases of the large stones illustrated in the book, p. 75, as derived from combinations of ornaments commonly found on Ægean pottery, these motives being themselves connected with the symbolism of sun-worship. In the case of other markings, it was considered these were possibly derived from the decoration of certain objects of Scandinavian origin. In an article in *L'Anthropologie*, vol. xxiii, p. 29, dealing with the subject, M. J. Déchelette has put forward other views with regard to the markings at New Grange. M. Déchelette sees in the markings at New Grange a degenerated copy of the female idols of neolithic times, carvings of which in a more or less rudimentary form have been found in the Iberian peninsula, Italy, France, England, and Scandinavia. It may be mentioned that from the occurrence of carvings of this idol on sepulchral monuments it is to be connected with funeral rites. M. Déchelette supports his contentions with a wealth of illustrations drawn from the tattooed idols of Greece, Portugal, and Aveyron, the engraved chalk cylinder from Madrid, the incised lines from Almizaraque, the sculptures from the artificial grottos of Marne, the vase fragments of Charantaise, the chalk drum from Folkton Wold (Yorkshire), and the engravings from the dolmens of Locmariaquer.

On p. 43 M. Déchelette gives a scheme of the evolution of the pattern of the idol, starting from fairly well-defined eyes, eyebrows, and nose, with chevron marks imitating tattooing. The face becomes stylized by the substitution of a mere arched line for the eyebrows, and concentric circles for the eyes, the tattooing marks becoming a conventional pattern of regular chevrons. In the Irish examples the spiral replaces the concentric circles for the eyes, and the pattern below is further enriched by lozenges, and finally we arrive at a form in which the spiral has an eyebrow above and a single lozenge below,

and this form M. Déchelette compares to the engravings on the slabs at New Grange. The shield-like figure on the roofing stone of the right recess at New Grange is compared by M. Déchelette to the engravings on the dolmen of Pierres-Plates at Locmariaquer, which also appear to be a stylized form of the idol.

M. Déchelette compares the very remarkable boundary-stone at Dowth, with the engraving of suns on it, to the vases from Millares, province d'Almérie, which are ornamented with raised circles, these in their turn being derived from a degenerate form of the idol.

M. Déchelette applies the same explanation to the scribings at Gavir'inis, the spiral ornamentation of which is to be regarded as derived from Ireland.

This very brilliant and original interpretation of the scribings at New Grange seems to fit the case exceedingly well, and M. Déchelette's theory may be regarded as a very probable one for the origin of the markings, but it must be remembered that there is some difficulty caused by the fact that the similarity in plan between New Grange and the tholos tombs, as has been pointed out, is too great to be neglected. Now if New Grange is derived from this source, it cannot well be placed earlier than 1000 B.C. The idol, on the other hand, is neolithic in date, and must have survived a considerable time to have influenced the Irish carvings. It must also be borne in mind that no other forms of this idol have been met with in Ireland.

INDEX